

FINAL REPORT



Contents: Volume 1 of 4
Text, Figures, Summary Tables, and Appendices A - K

Study Title: A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing
Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Laboratory Project ID: WIL-402025

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Test Guideline: OPPTS Guideline 870.3250
40 CFR 798.2250
OECD Guideline 411

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COMPLIANCE STATEMENT

The following is a detailed description of all differences between the practices used in this study, designated WIL-402025, and those required by the United States EPA GLP Standards (40 CFR Part 792), 18 September 1989, and the OECD Principles of GLP [C(97) 186/Final], 26 November 1997:

- The Sponsor conducted test substance characterization according to non-GLP standards and provided the characterization report to WIL Research (presented in Appendix B).
- The stability and purity of the test substance was not tested; however, it is the professional judgment of the Sponsor that the formulations are considered stable under the conditions of the study, because the test substance is intended for use at high temperatures. The expiration date for the test substance is unknown.

These exceptions had no effect on the integrity or quality of the study.

The protocol was designed and the study was conducted to be in general accordance with the U.S. EPA Health Effects Test Guidelines OPPTS 870.3250, the 40 CFR 798.2250, and the OECD Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 411, 12 May 1981.



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09 Aug 2012

Date

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1. SUMMARY

1.1. OBJECTIVE

The objectives of this study were to evaluate the toxicity potential of repeated dermal exposure of ultra-low sulfur diesel fuel for 90 days and to determine the effects on male and female rats, to verify/expand the existing data pertaining to polycyclic aromatic compounds (PAC) and the prediction of toxicity following exposure to high-boiling substances based on their PAC content.

1.2. STUDY DESIGN

Ultra-low sulfur diesel fuel (also known as petroleum products, diesel oil; CAS no. 68334-30-5) in the vehicle (mineral oil, USP) was administered via dermal application (non-occluded) to the back (down each side to ventral surface) and flanks (covering approximately 10% of the body surface area) to 3 groups (Groups 3-5) of Crl:CD(SD) rats for a minimum 90-day treatment period. The test substance was applied for approximately 6 hours per day, 5 days per week, followed by a 2-day nondosing period with the exception of the last week of dosing. Half of each sex for all dose groups received a 3-day nondosing period prior to the last week of dosing due to the staggered scheduled necropsy. Dosage levels were 100, 300, and 600 mg/kg/day for Groups 3, 4, and 5, respectively. A concurrent vehicle control group (Group 2) received the vehicle on a comparable regimen. A concurrent sham control group (Group 1) was subjected to the same procedures (*i.e.*, shaving, collaring, sham dosing with glass rod, and removal of residual test substance) as the test substance-treated groups; however, no vehicle or test substance was applied to these animals. The dose volume was 1.5 mL/kg for Groups 2-5. Each group consisted of 10 animals/sex. The scheduled necropsy occurred on study days 89 or 90 (study week 12).

Elizabethan-style collars were used to minimize ingestion of the test substance. All study animals were acclimated to the collars prior to the initiation of dosing. Collars were worn continuously during each 5-day dosing period and removed for each 2-day nondosing period.

All rats were observed twice daily for mortality and moribundity. Clinical examinations were performed daily during the dosing period. Dermal observations were performed during the pretest period and at the end of each 5-day dosing period. Detailed physical examinations were performed and individual body weights and food consumption were recorded for animals approximately weekly throughout the study, beginning during the pretest period. Ophthalmic examinations were performed on all animals during study weeks -1 and 12. Clinical pathology parameters (hematology, coagulation, and serum chemistry) were analyzed for all animals on the day of the scheduled necropsy (study day 89 or 90). Complete necropsies were conducted on all animals. Selected organs were weighed, and selected tissues were examined microscopically.

1.3. RESULTS

All animals survived to the scheduled necropsy. There were no test substance-related clinical or dermal observations, or effects on body weight and food consumption. There were no hematology and coagulation changes, alterations in serum chemistry parameters, organ weight changes, ophthalmic findings, or gross and microscopic lesions associated with test substance administration.

1.4. CONCLUSIONS

Based on the results of this study, dermal application of ultra-low sulfur diesel fuel over an area of approximately 10% of the shaved body surface area to CrI:CD(SD) rats for approximately 6 hours per day, 5 days per week, for a minimum 90-day treatment period at dosage levels of 100, 300, and 600 mg/kg/day was well tolerated at all dosage levels. There were no treatment-related effects at 600 mg/kg/day, establishing the no-observed-effect level (NOEL) the highest dosage level evaluated.

2. INTRODUCTION

The objectives of this study were to evaluate the toxicity potential of repeated dermal exposure of ultra-low sulfur diesel fuel for 90 days and to determine the effects on male and female rats, to verify/expand the existing data pertaining to polycyclic aromatic compounds (PAC) and the prediction of toxicity following exposure to high-boiling substances based on their PAC content.

2.1. GENERAL STUDY INFORMATION

This report presents the data from “A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats.” Due to software spacing constraints, the study title appears as “A 90-Day Dermal Study Utilizing Sulfur Diesel Fuel in Rats” on the report tables. The study protocol and deviations from the protocol are presented in Appendix A.

A list of abbreviations potentially used in this report is presented in Section 12. (Abbreviations).

For the data collection process, each phase of the study was separated into what were termed WIL computer protocols. The computer protocol reference numbers and types of data collected were identified as follows:

<u>Computer Protocol</u>	<u>Type of Data Collected</u>
WIL-402025	Main study data
WIL-402025P	Pretest data
WIL-402025U	Unscheduled clinical observations and nondosing day observations

2.2. KEY STUDY DATES

<u>Date(s)</u>	<u>Event(s)</u>
25 April 2011.....	Study initiation date (date protocol signed by Study Director)
26 April 2011.....	Experimental starting date (animal receipt)
5 May 2011.....	Assignment to study groups
9 May 2011.....	Experimental start date (initiation of dose administration; study day 0)
6 and 7 August 2011.....	Scheduled necropsy (study day 89 and 90, respectively; study week 12)
10 October 2011	Experimental termination/completion date (last histopathological examination)

2.3. CONTRIBUTING SCIENTISTS

Ophthalmology Pretest period (Study week -1)	David A. Wilkie, DVM, MS, DACVO The Ohio State University Columbus, OH
Dosing period (Study week 12)	Brian C. Gilger, DVM, MS, DACVO, DABT Ophthalmic Consulting and Research, LLC Raleigh, NC

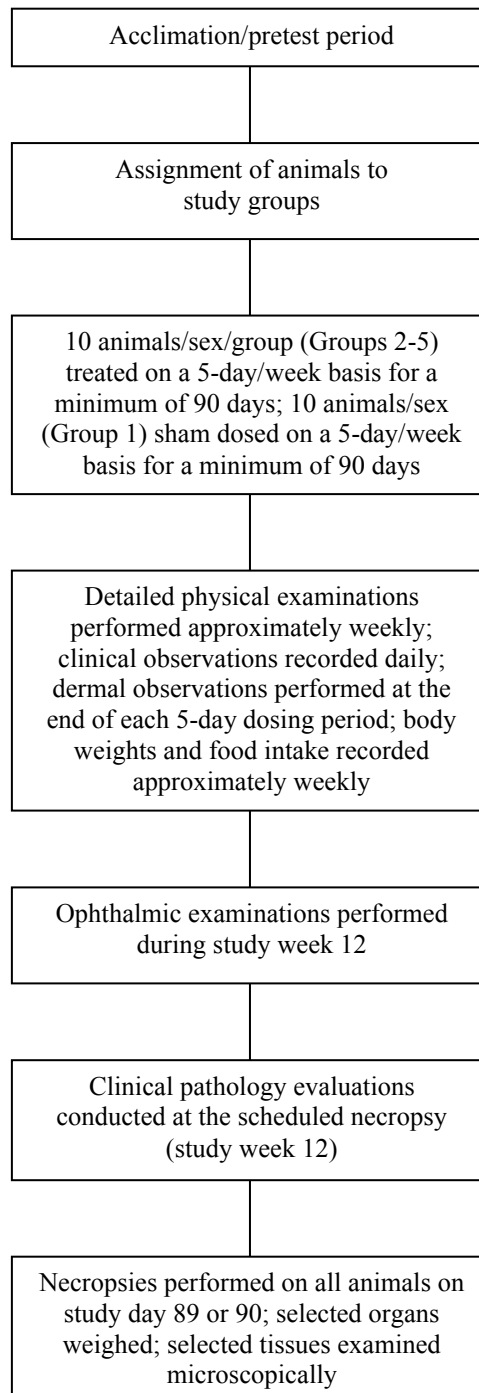
2.4. PARTICIPATING SCIENTISTS

Analyses of Dosing Formulations	Robert E. Boes, MS WIL Research Laboratories, LLC
Pathology	Melanie A. Greeley, DVM, PhD, DACVP WIL Research Laboratories, LLC

2.5. WIL RESEARCH KEY STUDY PERSONNEL

Eric S. Bodle, PhD	Assistant Director, Analytical Chemistry
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Michael J. Schlosser, PhD, DABT	Vice President, Analytical, Metabolism, & <i>In Vitro</i> Toxicology Services
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3. STUDY DESIGN



4. EXPERIMENTAL PROCEDURES - MATERIALS AND METHODS

4.1. TEST SUBSTANCE AND VEHICLE

4.1.1. TEST SUBSTANCE

The test substance, ultra-low sulfur diesel fuel, was received from EPL Archives, Inc., Sterling, VA, on behalf of the Sponsor, on 10 November 2010, as follows:

Identification	Physical Description
Ultra-low sulfur diesel fuel CAS no. 68334-30-5 Exp. Date: unknown [WIL log no. 8472A]	Clear, yellow liquid

Test substance characterization was provided by the Sponsor and is presented in Appendix B. The test substance was stored at room temperature, protected from light, and was considered stable under these conditions. A reserve sample of the test substance was collected and stored in the WIL Research Archives.

4.1.2. VEHICLE

The vehicle used in preparation of the test substance formulations and for application to the vehicle control group was mineral oil, USP (lot no. ZH1000, exp. dates 13 May 2013 and 3 March 2012; lot no. 2AB0895, exp. date 16 May 2013; manufactured by Spectrum Chemical Manufacturing Corporation, New Brunswick, NJ).

4.1.3. PREPARATION

For the vehicle control group (Group 2), a sufficient amount of mineral oil was dispensed approximately weekly; aliquots were prepared for daily dispensation and stored at room temperature, protected from light, prior to dose application. The pH was not measured due to the nature of the vehicle.

Dosing formulations were prepared at the test substance concentrations indicated in the following table:

Group Number	Treatment	Dosage Level (mg/kg/day)	Test Substance Concentration (mg/mL)
1	Sham Control	NA	NA
2	Vehicle	0	0
3	Test Substance ^a	100	66.7
4	Test Substance ^a	300	200
5	Test Substance ^a	600	400

NA = Not applicable

^a = The test substance for this study was ultra-low sulfur diesel fuel.

The test substance formulations were weight/volume (test substance/vehicle) mixtures. The test substance formulations were prepared approximately weekly as single formulations for each dosage level, divided into aliquots for daily dispensation, and stored at room temperature, protected from light prior to dose application. The test substance formulations were stirred continuously throughout the preparation, sampling, and dose application procedures. The formulations were not adjusted for purity.

4.1.4. SAMPLING AND ANALYSES

Analyses to demonstrate homogeneity and resuspension homogeneity as well as 8-day room temperature stability for the range of concentrations used on this study were conducted by the Analytical Chemistry Department at WIL Research and detailed in a separate report (Bodle, 2012, WIL-402028).

Two sets of duplicate samples for concentration and homogeneity analysis were collected from the top, middle, and bottom strata of the 0, 66.7, 200, and 400 mg/mL dosing formulations prepared for use during study week 0, and from the middle stratum of these same dosing formulations prepared for use during study weeks 6 and 12. One duplicate set was analyzed and the remaining duplicate set was stored at room temperature as reserve samples. All analyses were conducted by the WIL Research Analytical Chemistry Department using a validated high performance gas chromatography method

using flame ionization detection. Details about the methodology and results of these analyses are presented in Appendix C, and the results are summarized in Section 6.1.

4.2. TEST SYSTEM, ANIMAL RECEIPT, AND ACCLIMATION/PRETEST PERIOD

Crl:CD(SD) rats were used as the test system for this study. This species and strain of animal is recognized as appropriate for subchronic and chronic toxicity studies. The Sprague Dawley rat was selected because it is a widely used strain for which significant historical control data are available. The number of animals selected for this study (see Section 4.7.) was the minimum needed to yield statistically and scientifically meaningful data.

Crl:CD(SD) rats (60 males and 60 females) were received in good health from Charles River Laboratories, Inc., Raleigh, NC on 26 April 2011. The animals were approximately 45 days old at receipt. Each animal was examined by a qualified technician on the day of receipt and weighed 3 days later. Each animal was uniquely identified by a Monel[®] metal ear tag displaying the permanent identification number. All animals were housed for a 13-day acclimation/pretest period. During this period, each animal was observed twice daily for mortality and changes in general appearance or behavior.

Pretest data collection began on 29 April 2011. Individual body weights (without collars) and food consumption were recorded and detailed physical examinations and dermal observations were performed periodically during the pretest period. Ophthalmic examination data were also recorded for pretest animals prior to randomization. Pretest clinical observations are presented in Appendix D.

Animals were acclimated to wearing Elizabethan collars on an incremental basis, starting with approximately 1 hour and ending with approximately 24 hours of acclimation, for approximately 1 week prior to the initiation of dose application as outlined below:

Study Day	Approximate Acclimation Period (Hours)
-9	1
-8	2
-7	4
-6	8
-5	24

4.3. ANIMAL HOUSING

All animals were housed individually in clean, stainless steel, wire-mesh cages suspended above cage-board. Animals were maintained in accordance with the *Guide for the Care and Use of Laboratory Animals* (National Research Council, 1996). The animal facilities at WIL Research are accredited by AAALAC International. Enrichment devices were provided to all animals as appropriate throughout the study for environmental enrichment and to aid in maintaining the animals' oral health, and were sanitized weekly.

4.4. DIET, DRINKING WATER, AND MAINTENANCE

The basal diet used in this study, PMI Nutrition International, LLC, Certified Rodent LabDiet® 5002 (pellet), is a certified feed with appropriate analyses performed by the manufacturer and provided to WIL Research. Reverse osmosis-treated (on-site) drinking water, delivered by an automatic watering system, and the basal diet were provided *ad libitum* throughout the study, except during the period of fasting prior to clinical pathology blood collection when food, but not water, was withheld. Municipal water supplying the facility was analyzed for contaminants according to SOPs. The results of the diet analyses are maintained in the study records. No contaminants were present in animal feed or water at concentrations sufficient to interfere with the objectives of this study.

4.5. ENVIRONMENTAL CONDITIONS

All animals were housed throughout the acclimation period and during the study in an environmentally controlled room. The room temperature and humidity controls were set to maintain environmental conditions of $71 \pm 5^{\circ}\text{F}$ ($22 \pm 3^{\circ}\text{C}$) and $50 \pm 20\%$, respectively.

Room temperature and relative humidity data were monitored continuously and were scheduled for automatic collection on an hourly basis. These data are summarized in Appendix E. Actual mean daily temperature ranged from 69.6°F to 72.3°F (20.9°C to 22.4°C) and mean daily relative humidity ranged from 46.0% to 70.3% during the study. Fluorescent lighting provided illumination for a 12-hour light (0600 hours to 1800 hours)/12-hour dark photoperiod. The light status (on or off) was recorded once every 15 minutes. The 12-hour light/12-hour dark photoperiod was interrupted as necessary to allow for the performance of protocol-specified activities. Air handling units were set to provide a minimum of 10 fresh air changes per hour.

4.6. ASSIGNMENT OF ANIMALS TO TREATMENT GROUPS

On 5 May 2011 (4 days prior to the initiation of dose administration), all available rats were weighed and examined in detail for physical abnormalities. These data were collected using WTDMS™ and reviewed by the Study Director. The animals judged suitable for assignment to the study were selected for use in a computerized randomization procedure based on body weight stratification in a block design. A printout containing the animal numbers and individual group assignments was generated, and the animals were then arranged into groups according to the printout. Individual body weights at randomization were within $\pm 20\%$ of the mean for each sex. On study day 0, replacement animals (male no. 11004 and females nos. 11114, 11096, and 11097) was arbitrarily assigned based on body weight for male no. 11041 (600 mg/kg/day group) and females nos. 11063 (vehicle control group), 11067 (600 mg/kg/day group), and 11100 (600 mg/kg/day group), respectively, due to scabbing. Individual data for the replaced animal are maintained in the study records. Animals not assigned to study were transferred to the WIL Research stock colony.

Each group consisted of 10 males and 10 females. The animals were approximately 8 weeks old at the initiation of dose administration. Individual body weights ranged from 209 g to 253 g for males and from 161 g to 188 g for females at randomization.

4.7. ORGANIZATION OF TEST GROUPS, DOSAGE LEVELS, AND TREATMENT REGIMEN

Prior to the initiation of dose administration, and throughout the study as necessary, the hair was clipped from the back (down each side to the ventral surface) and flanks of each animal using an electric clipper; a different set of clippers was used for the sham and vehicle control groups and the test substance-treated groups to avoid potential cross-contamination.

The vehicle or test substance was applied evenly to the clipped, unabraded area of skin and spread evenly using a glass rod (to ensure contact with an area of approximately 10% of the body surface area) once daily on a 5-day/week basis for a minimum 90-day treatment period. No vehicle was applied to the sham control group. All animals wore Elizabethan collars during each 5-day dosing period. At the end of each dosing day, after an approximate 6-hour exposure period, all animals were gently wiped with a paper towel to remove unabsorbed test substance. At the end of each 5-day dosing period, residual test substance was gently removed (as much as possible without inducing irritation of the skin) from all animals using a warm water and mild soap solution (1% Ivory liquid soap in tap water) followed by a deionized water rinse and drying of the animals with a clean paper towel. Following each wash procedure, all animals were transferred to clean cages and the collars removed for a 2-day nondosing period.

The application sites were marked with a permanent marker for all animals and re-marked as necessary throughout the study to allow proper identification of the treated and untreated skin. The area of test substance application was measured and recorded weekly for a representative animal (close to mean body weight) of each sex in each group. The actual surface area of coverage was calculated for each representative as follows:

$$\text{Total body surface area (cm}^2\text{)} = K \cdot \text{body weight (grams)}^{(2/3)}$$

Where:

$$K = 9 \text{ for rats (Freireich } et al., 1966)$$

The mean area of coverage was 10% for males and females in the test substance-treated groups.

The following table presents the approximate percentages of body surface area covered by the test substance for each group/week/sex.

Percent Coverage (%)											
Group Dosage Level (mg/kg/day)	Males					Females					
	1 NA	2 0	3 100	4 300	5 600	1 NA	2 0	3 100	4 300	5 600	
Study Week 0	10	9.9	10	10	9.9	9.9	10	10	10.1	10	
Study Week 1	10.1	9.9	10	10	10	9.9	10	9.9	10.1	10.1	
Study Week 2	10	10	10	9.9	9.9	9.9	9.9	9.9	10.7	10	
Study Week 3	10	10	9.8	10.1	10	9.9	9.9	10	10.1	8.7	
Study Week 4	10	10.1	9.9	9.9	10	10.1	10	10	10	10	
Study Week 5	10	10	10.1	10	9.9	10	9.9	10	10	10	
Study Week 6	9.9	10	10	10	10.1	10	10	10	9.9	10	
Study Week 7	10	9.9	10.1	10	9.9	10	9.9	10.1	9.9	10	
Study Week 8	7.3	9.9	10	10	10	9.9	10.1	10.1	10.1	10.1	
Study Week 9	10.2	10	10	10	10	10	10.2	10	10	10	
Study Week 10	10	10	10	10.1	10	10	10.1	10	10	10	
Study Week 11	10	10	9.9	10	10	9.9	9.9	10	10	10	
Study Week 12	10	9.9	10	10	10.2	9.8	10	10.1	10.1	9.8	
Mean Coverage	9.8	10.0	10.0	10.0	10.0	9.9	10.0	10.0	10.1	9.9	
Standard Deviation	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	

NA = Not applicable

The dose volume for the test substance-treated groups was 1.5 mL/kg, adjusted as mL/kg per the most recent body weight. The first day of dosing was study day 0, the first week of dosing was study week 0. Due to the staggered scheduled necropsy, half of each sex for all dose groups received a 3-day nondosing period prior to the last week of dosing.

The following table presents the study group assignment:

Group Number	Treatment	Dosage Level (mg/kg/day)	Dose Volume (mL/kg)	Number of Animals	
				Males	Females
1	Sham Control	NA	NA	10	10
2	Vehicle	0	1.5	10	10
3	Test Substance ^a	100	1.5	10	10
4	Test Substance ^a	300	1.5	10	10
5	Test Substance ^a	600	1.5	10	10

NA = Not applicable

^a = The test substance for this study was ultra-low sulfur diesel fuel.

Dosage levels for this study were selected by the Sponsor based upon results from a previous 14-day range-finding dermal toxicity study (Morris, **Draft**, WIL-402021) in which dosage levels of 100, 300, 1000, and 1290 mg/kg/day were used and test substance-related lethality of all animals was observed in the 1000 and 1290 mg/kg/day groups. Dosage levels were selected to cover a range extending from a minimal dosage level to a dosage level which was likely to show signs of toxicity.

The selected route of administration for this study was dermal because the study objective was to determine the potential toxicity of the test substance when administered by the dermal route.

5. PARAMETERS EVALUATED

5.1. SURVIVAL

All animals were observed twice daily, once in the morning and once in the afternoon, for mortality and moribundity.

5.2. CLINICAL OBSERVATIONS

Clinical examinations were performed on all animals prior to dose application and at approximately 1 to 2 hours following dose application. On nondosing days, the animals were observed once daily. The absence or presence of findings was recorded for individual animals at the scheduled intervals. Detailed physical examinations were conducted on all animals at least once during the pretest period, approximately weekly during the study, and on the days of the scheduled necropsy. A separate computer protocol was used to record any observations or treatments noted outside of the above-specified intervals. These unscheduled clinical observations and treatments are presented in Appendix F.

5.3. DERMAL OBSERVATIONS

Dermal observations were performed on all animals once during the pretest period and on all animals at the end of each 5-day dosing period at approximately 1 to 2 hours following the removal of any residual test substance. The application sites were scored for erythema and edema in accordance with the methods of Draize (Draize, 1965) using the 4-step grading system presented in Appendix G. All dermal findings were recorded.

5.4. BODY WEIGHTS

Individual body weights were recorded approximately weekly beginning during the pretest period and for the duration of the study. Body weights were collected prior to the first dose of each 5-day dosing period; therefore, animals were weighed without collars. During study week 12, body weights were recorded twice weekly. The second weekly body weights are identified in the text and on the report tables by a prime (') symbol. Mean body weights and mean body weight changes were calculated for the

corresponding intervals. Final body weights (fasted) were recorded on the day of the scheduled necropsy.

5.5. FOOD CONSUMPTION

Individual food consumption was recorded approximately weekly beginning during the pretest period and for the duration of the study. Food intake was calculated as g/animal/day for the corresponding body weight intervals. When food consumption could not be measured for a given interval (due to spillage, weighing error, obvious erroneous value, *etc.*), the appropriate interval was footnoted as "NA" on the individual tables.

5.6. CLINICAL PATHOLOGY

Blood samples for clinical pathology evaluations (hematology, coagulation, and serum chemistry) were collected from all animals at the scheduled necropsy (study week 12). The animals were fasted overnight prior to blood collection. Blood was collected at the time of necropsy from the vena cava of animals euthanized by inhalation of isoflurane. Blood was collected into tubes containing potassium EDTA (hematology), sodium citrate (coagulation) or no anticoagulant (serum chemistry). Clinical pathology methods, procedures, and references are presented in Appendix H. Interpretation of the clinical pathology data is presented in Appendix I. The following parameters were evaluated:

5.6.1. HEMATOLOGY AND COAGULATION

Total leukocyte count (WBC)	Differential leukocyte count -
Erythrocyte count (RBC)	Percent and absolute
Hemoglobin (HGB)	-Neutrophil (NEU)
Hematocrit (HCT)	-Lymphocyte (LYMPH)
Mean corpuscular volume (MCV)	-Monocyte (MONO)
Mean corpuscular hemoglobin	-Eosinophil (EOS)
(MCH)	-Basophil (BASO)
Mean corpuscular hemoglobin	-Large unstained cell (LUC)
concentration (MCHC)	Red cell distribution width
Platelet count (PLATELET)	(RDW)
Prothrombin time (PT)	Hemoglobin distribution width
Activated partial thromboplastin time	(HDW)
(APTT)	Platelet estimate ^a
Reticulocyte count	Red cell morphology
Percent (RETIC)	(RBC Morphology) ^a
Absolute (RETIC ABSOLUTE)	

() = Designates tabular abbreviation

^a = Presented on individual tables if a manual differential was performed, and the manual data were accepted and reported instead of the automated differential data

5.6.2. SERUM CHEMISTRY

Albumin	Gamma glutamyltransferase (GGT)
Total protein	Glucose
Globulin [by calculation]	Total cholesterol (Cholesterol)
Albumin/globulin ratio (A/G Ratio)	Calcium
[by calculation]	Chloride
Total bilirubin (Total Bili)	Phosphorus
Urea nitrogen	Potassium
Creatinine	Sodium
Alkaline phosphatase (ALP)	Triglycerides (Triglyceride)
Alanine aminotransferase (ALT)	Sorbitol dehydrogenase (SDH)
Aspartate aminotransferase (AST)	

() = Designates tabular abbreviation

5.7. OPHTHALMIC EXAMINATIONS

Ocular examinations were conducted on all animals prior to randomization (3 May 2011; study week -1) and prior to the scheduled necropsy (5 August 2011; study week 12). All

ocular examinations were conducted using an indirect ophthalmoscope and slit lamp biomicroscope preceded by pupillary dilation with an appropriate mydriatic agent. The ophthalmic examination statements are presented in Appendix J.

5.8. ANATOMIC PATHOLOGY

5.8.1. MACROSCOPIC EXAMINATION

A complete necropsy was conducted on all animals. Animals were euthanized by isoflurane inhalation. The necropsies included, but were not limited to, examination of the external surface, all orifices, and the cranial, thoracic, abdominal, and pelvic cavities, including viscera. Clinical findings that were confirmed macroscopically were designated CEO on the individual macroscopic data tables. The following tissues and organs were collected and placed in 10% neutral-buffered formalin (except as noted):

Adrenals (2)	Lymph nodes
Aorta	Axillary (2)
Bone with marrow	Mandibular (2)
Femur with joint	Mesenteric
Sternum	Ovaries with oviducts (2) ^d
Bone marrow smear (from sternum) ^a	Pancreas
Brain	Peripheral nerve (sciatic)
Cerebrum level 1	Pituitary
Cerebrum level 2	Prostate
Cerebellum with medulla/pons	Salivary glands (mandibular [2])
Cervix	Seminal vesicles (2)
Epididymides (2) ^b	Skeletal muscle (rectus femoris)
Eyes with optic nerve (2) ^c	Skin (with mammary gland) ^e
Gastrointestinal tract	Skin
Esophagus	Sham, Vehicle, and Treated
Stomach	(3 sections)
Duodenum	Untreated (posterior to treated skin)
Jejunum	Spinal cord (cervical, thoracic, lumbar)
Ileum	Spleen
Cecum	Testes (2) ^b
Colon	Thymus
Rectum	Thyroid (with parathyroids, if present [2]) ^d
Heart	Trachea
Kidneys (2)	Urinary bladder
Lacrimal gland (exorbital [2])	Uterus
Liver (sections of 2 lobes)	Vagina
Lungs (including bronchi, fixed by inflation with fixative)	Gross lesions (when possible)

^a - Bone marrow smears were not placed in formalin, slides were not examined.

^b - Fixed in Bouin's solution

^c - Fixed in Davidson's solution

^d - Oviducts and parathyroids were examined microscopically when in the plane of section and in all cases where a gross lesion was present.

^e - For females; a corresponding section of skin was taken from the same anatomical area for males.

5.8.2. ORGAN WEIGHTS

The following organs were weighed from all animals at the scheduled necropsy:

Adrenals	Pituitary
Brain	Prostate
Epididymides	Spleen
Heart	Testes
Kidneys	Thymus
Liver	Thyroid with parathyroids*
Ovaries with oviducts	Uterus

Paired organs were weighed together. Designated organs (*) were weighed after fixation. Organ to final body weight and organ to brain weight ratios were calculated.

5.8.3. SLIDE PREPARATION AND MICROSCOPIC EXAMINATION

After fixation, protocol-specified tissues were trimmed according to WIL Research's SOPs and the protocol. Trimmed tissues were processed into paraffin blocks, sectioned at 4 to 8 microns, mounted on glass microscope slides, and stained with hematoxylin and eosin.

Microscopic examination was performed on all tissues listed in Section 5.8.1. from all animals. Missing tissues were identified as not found at necropsy, lost at necropsy, lost during processing, or other designations as appropriate. Tissues may appear on the report tables as not examined due to the tissue not being in the plane of section, not present at trimming, *etc.* The pathology report is presented in Appendix I.

5.9. DATA ACQUISITION AND ANALYSIS

5.9.1. ACQUISITION AND REPORTING

Program/System	Description
Archive Management System (AMS)	In-house developed application for storage, maintenance, and retrieval of information for archived materials (<i>e.g.</i> , lab books, study data, wet tissues, slides, <i>etc.</i>).
Formulations Dose Dispensing Management System (FDDMS)	In-house developed system used to assign unique barcodes to formulation containers and individual containers used for dispensing dosing formulations.
InSight [®] Publisher	Electronic publishing system (output is Adobe Acrobat, PDF).
Master Schedule	Maintains the master schedule for the company.
Metasys DDC Electronic Environmental Control System	Controls and monitors animal room environmental conditions.
Microsoft [®] Office 2007; GraphPad Prism [®] 2008	Used in conjunction with the publishing software to generate study reports.
Provantis Dispense [™]	Comprehensive system (Instem LSS Limited) to manage test materials, including receipt, formulation instructions, and accountability.
WIL Formulations Dispense System (WFDS)	In-house developed system for use in conjunction with Provantis Dispense [™] to ensure proper storage and use of formulations.
WIL Metasys	In-house developed system used to record and report animal room environmental conditions.
WIL Toxicology Data Management System [™] (WTDMS [™])	In-house developed system used for collection and reporting of in-life and <i>postmortem</i> data.

Note: Version numbers of WTDMS[™] programs used for the study are presented on the report data tables (reporting programs); version numbers and release dates are otherwise maintained in the study records and/or facility records.

5.9.2. STATISTICAL ANALYSIS

Each mean was presented with the standard deviation (S.D.), standard error (S.E.), and the number of animals (N) used to calculate the mean. Due to the use of significant

figures and the different rounding conventions inherent in the types of software used, the means and standard deviations on the summary and individual tables may differ slightly. Therefore, the use of reported individual values to calculate subsequent parameters or means will, in some instances, yield minor variations from those listed in the report data tables.

All statistical tests were performed using WTDMSTM unless otherwise noted. Analyses were conducted using two-tailed tests (except as noted otherwise) for minimum significance levels of 1% and 5%, comparing each test substance-treated group to the control group by sex.

Body weight, body weight change, food consumption, clinical pathology (except gamma glutamyltransferase [GGT]), and organ weight (absolute and relative) data, for the vehicle control group (Group 2) and all test substance-treated groups (Groups 3-5) were subjected to a one-way analysis of variance (Snedecor and Cochran, 1980) to determine intergroup differences. If the ANOVA revealed statistically significant ($p < 0.05$) intergroup variance, Dunnett's test (Dunnett, 1964) was used to compare the test substance-treated groups (Groups 3-5) to the vehicle control group (Group 2). The vehicle control group (Group 2) data were evaluated using the Student's t-Test (Sokal and Rohlf, 1981) and compared to the sham control group (Group 1) at a 95% confidence level ($p < 0.05$).

GGT values under range were assigned a value of 0.1 (half the lower limit of quantitation) for statistical analysis and reporting. GGT data were subjected to the Kruskal-Wallis nonparametric ANOVA test (Kruskal and Wallis, 1952) to determine intergroup differences. If the ANOVA revealed significance ($p < 0.05$), Dunn's test (Dunn, 1964) was used to compare the test substance-treated groups (Groups 3-5) to the vehicle control group (Group 2). In addition, the sham control group (Group 1) and vehicle control group (Group 2) were compared using a separate Kruskal-Wallis nonparametric ANOVA test.

6. RESULTS

6.1. ANALYSES OF DOSING FORMULATIONS

Analyses of Dosing Formulations Report: Appendix C

The analyzed dosing formulations were found to contain 85% to 92.9% of the test substance which was within the WIL Research SOP range of target concentrations for suspensions (85% to 115%) and were homogeneous. Based on these results, the protocol-specified doses of test substance were administered to the animals. The test substance was not detected in the vehicle control formulation that was administered to Group 2.

Results of the analyses of dosing formulations are summarized below.

Text Table 1. Results of Homogeneity Analyses

	Group 3 (66.7 mg/mL)	Group 4 (200 mg/mL)	Group 5 (400 mg/mL)
Homogeneity Assessment of the 6 May 2011 Formulations			
Mean Concentration (mg/mL)	64.9	193	391
RSD (%)	7.7	5.6	6.5
Mean % of Target	97.3	96.4	97.8

Text Table 2. Results of Concentration Analyses

	Mean Concentration, mg/mL (% of Target)		
	Group 3 (66.7 mg/mL)	Group 4 (200 mg/mL)	Group 5 (400 mg/mL)
Date of Preparation			
17 June 2011	62.0 (92.9)	177 (88.3)	365 (91.3)
29 July 2011	59.6 (89.4)	170 (85.0)	342 (85.5)

6.2. SURVIVAL

Summary Data: Table S1

Individual Data: Table A1

All animals survived to the scheduled necropsy.

6.3. CLINICAL OBSERVATIONS

Summary Data: Table S2, Table S3, Table S4

Individual Data: Table A2, Table A3, Table A4; Appendix F

There were no test substance-related clinical observations. All clinical findings in the test substance-treated groups were noted with similar incidence in the control group, were limited to single animals, were not noted in a dose-related manner and/or were common findings for laboratory rats of this age and strain.

6.4. DERMAL OBSERVATIONS

Summary Data: Table S5

Individual Data: Table A5

Scoring Criteria for Dermal Reactions: Appendix G

There were no test substance-related effects noted during the dermal observations. Residual test substance within the dose site was noted in the 100, 300, and 600 mg/kg/day group males and females.

Dermal findings of very slight, slight, and/or moderate erythema, very slight and/or slight edema, and/or scabbing within dose site were noted in the 100, 300, and/or 600 mg/kg/day group males and females, as well as in the vehicle control group. Therefore, these dermal observations were considered most likely vehicle-related.

6.5. BODY WEIGHTS

Summary Data: Table S6, Table S7, Table S8; Figure 1, Figure 2

Individual Data: Table A6, Table A7, Table A8

Body weights were unaffected by test substance administration. However, statistically significant differences in mean body weight changes were noted in the 600 mg/kg/day group females from study week 12 to 12' when compared to the vehicle control group. Differences in body weight gain were probably due to biological variability and were not considered related to test substance administration due to lack of

a dose-response trend. In addition, a statistically significant mean body weight loss was noted in the vehicle control group females from study week 12 to 12' when compared to the sham control group.

6.6. FOOD CONSUMPTION

Summary Data: Table S9

Individual Data: Table A9

Food consumption was unaffected by test substance administration. Statistically significantly higher mean food consumption was noted in the 300 mg/kg/day group females (study week 10 to 11) and statistically significantly lower mean food consumption was noted in the 100 mg/kg/day group females (study week 12 to 12'); however, due to the magnitude of change and the lack of a dose-response trend, these values were not considered test substance-related.

6.7. CLINICAL PATHOLOGY

6.7.1. HEMATOLOGY AND COAGULATION

Summary Data: Table S10

Individual Data: Table A10

Pathology Report: Appendix I

There were no test substance-related alterations in hematology and coagulation parameters. There were no statistically significant differences when the vehicle control and test substance-treated groups were compared.

6.7.2. SERUM CHEMISTRY

Summary Data: Table S11

Individual Data: Table A11

Pathology Report: Appendix I

There were no test substance-related alterations in serum chemistry parameters.

A statistically significant difference was observed when the vehicle and test substance-exposed groups were compared. The albumin to globulin (A/G) ratio in the 600 mg/kg/day group males was higher than the vehicle control group but was not considered test substance-related as the value was similar to the sham control male group value.

6.8. OPHTHALMIC EXAMINATIONS

Summary Data: Table S12, Table S13

Individual Data: Table A12, Table A13

Ophthalmic Examination Report: Appendix J

No ophthalmic lesions indicative of toxicity were observed in any of the test substance-treated groups. All findings observed were typical in prevalence and appearance for laboratory rats of this age and strain.

6.9. ANATOMIC PATHOLOGY

6.9.1. MACROSCOPIC EXAMINATION

Summary Data: Table S14

Individual Data: Table A14

Pathology Report: Appendix I

Review of the gross necropsy observations revealed no observations that were considered to be associated with application of the test substance.

6.9.2. ORGAN WEIGHTS

Summary Data: Table S15

Individual Data: Table A15, Table A16, Table A17

Pathology Report: Appendix I

There were no test substance-related alterations in organ weights.

6.9.3. MICROSCOPIC EXAMINATION

Summary Data: Table S16

Individual Data: Table A14

Pathology Report: Appendix I

There were no test substance-related microscopic findings.

Findings in the skin unrelated to test substance exposure included mononuclear infiltrates in the treated, untreated, and inguinal skin. These infiltrates consisted of lymphocytes and plasma cells in the superficial dermis and rarely surrounding follicles in all groups. Inguinal skin from test substance-exposed males and females had a slightly higher incidence of mononuclear infiltrates compared to the sham control group. Untreated skin in the 300 and 600 mg/kg/day group males and females had a slightly higher incidence of mononuclear infiltrates when compared to the sham and vehicle control groups. These findings were not considered test substance-related as they were noted in skin that was not exposed to the test substance and there was no microscopic evidence of systemic exposure. One 600 mg/kg/day group male (no. 11060) had moderate chronic-active inflammation in the inguinal skin. Chronic-active inflammation was characterized by lymphocytes, plasma cells, neutrophils and macrophages accompanied by fibroplasia. Inflammatory cells were observed surrounding occasionally degenerate hair follicles and extended focally into the adjacent panniculus muscle. This inflammatory lesion was not considered test substance-related as this area was not exposed to test substance and was more consistent with a background lesion (Greaves, 2007).

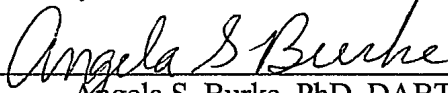
Remaining histologic changes were considered to be incidental findings or related to some aspect of experimental manipulation other than administration of the test article. There was no test substance-related alteration in the prevalence, severity, or histologic character of those incidental tissue alterations.

7. CONCLUSIONS

Based on the results of this study, dermal application of ultra-low sulfur diesel fuel over an area of approximately 10% of the shaved body surface area to Crl:CD(SD) rats for approximately 6 hours per day, 5 days per week, for a minimum 90-day treatment period at dosage levels of 100, 300, and 600 mg/kg/day was well tolerated at all dosage levels. There were no treatment-related effects at 600 mg/kg/day, establishing the no-observed-effect level (NOEL) the highest dosage level evaluated.

8. REPORT REVIEW AND APPROVAL

Report Approved By:

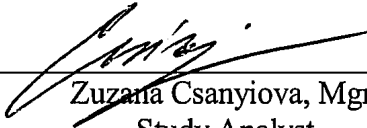


Angela S. Burke, PhD, DABT
Staff Toxicologist, General Toxicology
Study Director

09 Aug 2012

Date

Report Prepared By:

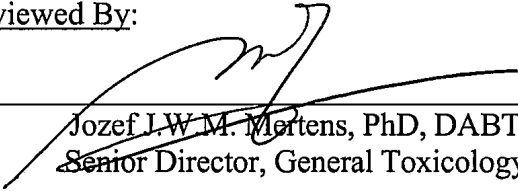


Zuzana Csanyiova, Mgr.
Study Analyst

09 Aug 2012

Date

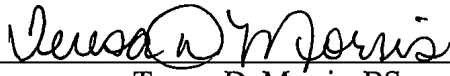
Report Reviewed By:



Jozef I.W.M. Mertens, PhD, DABT
Senior Director, General Toxicology

09 Aug 2012

Date



Teresa D. Morris, BS
Senior Toxicologist, General Toxicology

09 Aug 2012

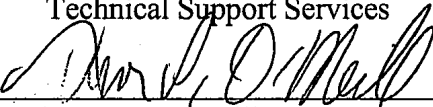
Date



Misty R. Lee, BA
Group Manager, Reporting &
Technical Support Services

9 August 2012

Date



Thomas P. O'Neill, BS, DABT
Assistant Director, General Toxicology

9 AUG 12

Date

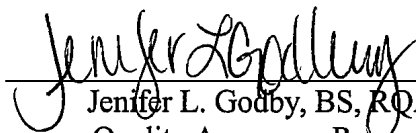
9. QUALITY ASSURANCE DEPARTMENT STATEMENT

<u>Date(s) of Inspection(s)</u>	<u>Phase Inspected</u>	<u>Date(s) Findings Reported to Study Director</u>	<u>Date(s) Findings Reported to Management</u>
13-May-2011	Test Article Preparation	13-May-2011	28-Jun-2011
11-Jul-2011	Body Weights	11-Jul-2011	26-Aug-2011
06-Aug-2011	Necropsy	06-Aug-2011	26-Sep-2011
06-Aug-2011	Clinical Pathology Blood Collection and Analysis	06-Aug-2011	26-Sep-2011
12-Aug-2011	Trimming of Tissues	12-Aug-2011	26-Sep-2011
25-Aug-2011	Study Records (C-1, Hemoglobin and Platelet Data only)	25-Aug-2011	26-Sep-2011
25-Aug-2011	Study Records (I-3, Terminal Body Weight Data only)	25-Aug-2011	26-Sep-2011
25-Aug-2011	Study Records (N-1, Liver and Thymus Organ Weight Data only)	25-Aug-2011	26-Sep-2011
25-Aug-2011	Microtomy	25-Aug-2011	26-Sep-2011
29-Aug-2011	Draft Abbreviated Summary and Individual Tables (hemoglobin, platelet count, final body weights, absolute and relative liver weights, and absolute thymus weights)	29-Aug-2011	26-Sep-2011
21-Sep-2011 24-Sep-2011	Study Records (I-1)	24-Sep-2011	25-Oct-2011
22-Sep-2011 23-Sep-2011 24-Sep-2011	Study Records (I-2 and I-3)	24-Sep-2011	25-Oct-2011
24-Sep-2011	Study Records (C-1)	24-Sep-2011	25-Oct-2011
24-Sep-2011	Study Records (N-1)	24-Sep-2011	25-Oct-2011
24-Sep-2011	Study Records (RX-1 and RX-2)	24-Sep-2011	25-Oct-2011

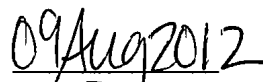
<u>Date(s) of Inspection(s)</u>	<u>Phase Inspected</u>	<u>Date(s) Findings Reported to Study Director</u>	<u>Date(s) Findings Reported to Management</u>
29-Sep-2011	Study Records (A-1, A-2)	29-Sep-2011	25-Oct-2011
25-Oct-2011	Analytical Chemistry Report	25-Oct-2011	28-Nov-2011
31-Oct-2011	Study Records (H-1)	31-Oct-2011	28-Nov-2011
31-Oct-2011	Study Records (Pathology Data)	31-Oct-2011	28-Nov-2011
31-Oct-2011 01-Nov-2011 03-Nov-2011	Draft Report without Analyses of Dosing Formulations and Pathology Reports	03-Nov-2011	20-Dec-2011
03-Nov-2011	Pathology Report	03-Nov-2011	20-Dec-2011
08-Nov-2011	Audited Analytical Chemistry Report	08-Nov-2011	20-Dec-2011
08-Nov-2011	Audited Draft Report	08-Nov-2011	20-Dec-2011
01-Aug-2012	Final Pathology Report	01-Aug-2012	01-Aug-2012
07-Aug-2012	Final Report	07-Aug-2012	07-Aug-2012

This study was inspected in accordance with the United States EPA GLP Standards (40 CFR Part 792), the OECD Principles of GLP, the WIL Research SOPs, and the Sponsor's protocol and protocol amendments. The data located in Appendix B (Test Substance Characterization) were the responsibility of the Sponsor. Review of the protocol and protocol amendments as well as a yearly internal facility inspection are conducted by the WIL Research Quality Assurance Department. A status report is submitted to management monthly.

This report accurately reflects the data generated during the study. The methods and procedures used in the study were those specified in the protocol, its amendments, and the WIL Research SOPs.



Jennifer L. Godby, BS, ROAP-GLP
Quality Assurance Representative



Date

10. REFERENCES

Bodle, E.S. Analytical Validation and Stability Study of Ultra-Low Sulfur Diesel in Mineral Oil Formulation (Study No. WIL-402028). WIL Research Laboratories, LLC, Ashland, OH, **2012**.

Draize, J.H. The appraisal of the safety of chemicals in foods, drugs, and cosmetics. *Dermal Toxicity* **1965**, 46-59.

Dunn, O.J. Multiple comparisons using rank sums. *Technometrics* **1964**, 6(3), 241-252.

Dunnett, C.W. New tables for multiple comparisons with a control. *Biometrics* **1964**, 20, 482-491.

Freireich, E.J.; Gehan, E.A.; Rall, D.P.; Schmidt, L.H.; Skipper, H.E. Quantitative Comparison Toxicity of Anticancer Agents in Mouse, Rat, Hamster, Dog, Monkey, and Man. *Cancer Chemotherapy Reports* **1966**, 50(4), 219-244.

Greaves, P. Integumentary System. In *Histopathology of Preclinical Toxicity Studies*, 3rd ed.; Greaves, P., Ed; Elsevier: New York, **2007**, p. 14.

Kruskal, W.H.; Wallis, W.A. Use of ranks in one-criterion variance analysis. *Journal of the American Statistical Association* **1952**, 47, 583-621.

Morris, T.D. A 14-Day Dose Range Finding Dermal Toxicity Study Utilizing Petroleum Products, Diesel Oil (Ultra Low Sulfur Diesel Fuel) in Sprague Dawley Rats (Study No. WIL-402021). WIL Research Laboratories, LLC, Ashland, OH, **Draft**.

National Research Council. *Guide for the Care and Use of Laboratory Animals*, Institute of Laboratory Animal Resources, Commission on Life Sciences; National Academy Press: Washington, DC, **1996**.

Snedecor, G.W.; Cochran, W.G. One-Way Classifications; Analysis of Variance. In *Statistical Methods*, 7th ed.; The Iowa State University Press: Ames, IA, **1980**; pp 215-237.

Sokal, R.R.; Rohlf, F.J. Biometry: The Principles and Practice of Statistics in Biological Research. Freeman: San Francisco, CA, **1981**; pp 222-229.

11. DATA RETENTION

The Sponsor has title to all documentation records, raw data, slides, specimens, or other work product generated during the performance of the study. Any remaining dosing formulation or clinical pathology samples will be discarded upon issuance of the final report; all remaining work product generated by WIL Research, including raw paper data and specimens, are retained in the WIL Research Archives as specified in the study protocol.

A reserve sample of the test substance, pertinent electronic storage media, and the original final report are retained in the WIL Research Archives in compliance with regulatory requirements.

12. ABBREVIATIONS

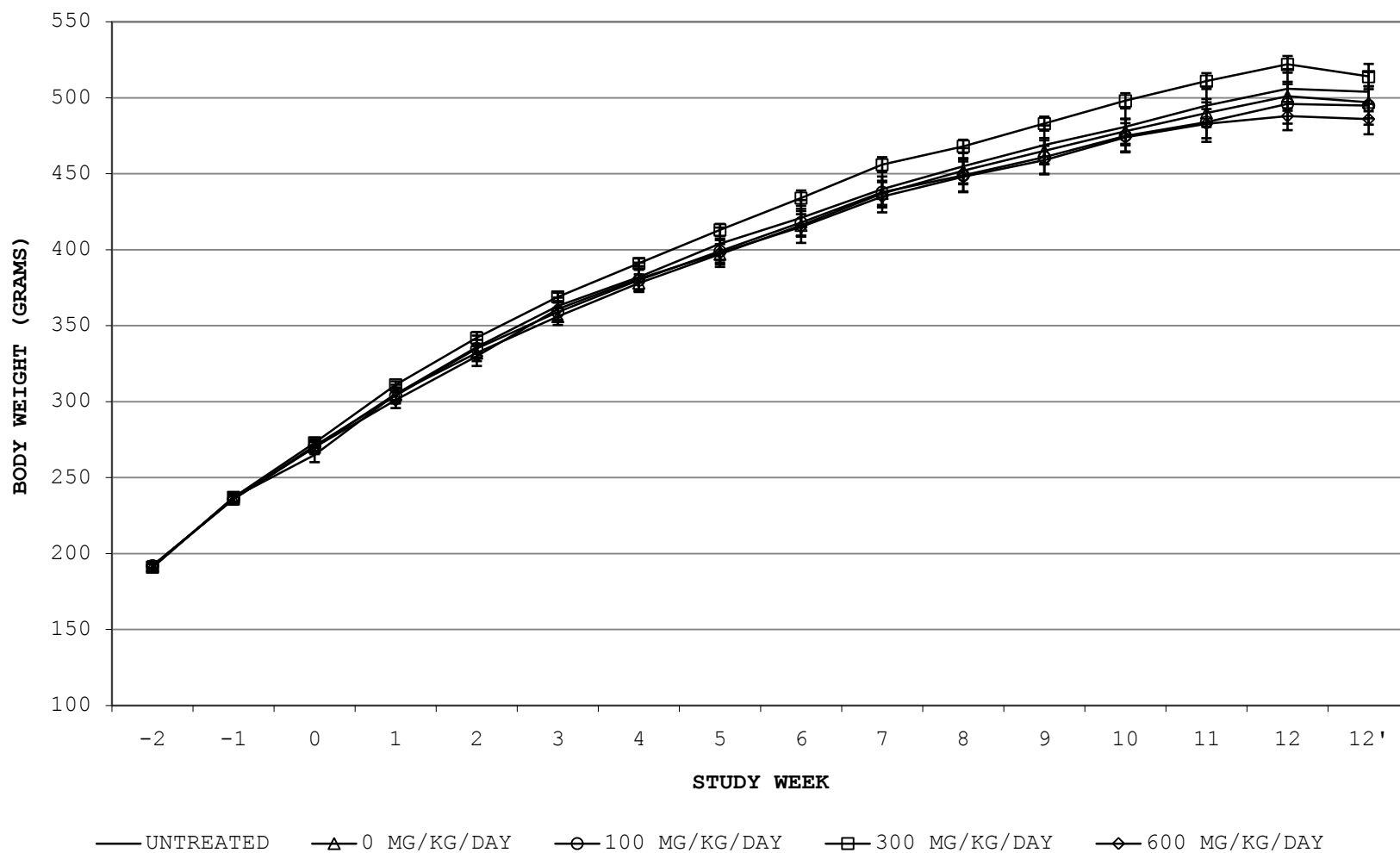
The following abbreviations may apply to this report:

μ	-	micro
AAALAC	-	Association for Assessment and Accreditation of Laboratory Animal Care
ANOVA	-	analysis of variance
BMDS	-	Bio Medic Data Systems
cm	-	centimeter
dB	-	decibels
dL	-	deciliter
EPA	-	Environmental Protection Agency
<i>etc.</i>	-	<i>et cetera</i>
EDTA	-	ethylenediaminetetraacetic acid
exp	-	expiration
g	-	gram
GLP	-	Good Laboratory Practices
hr	-	hour(s)
kg	-	kilogram
L	-	liter
M	-	molar
mg	-	milligram
mL	-	milliliter
mm	-	millimeter
ms	-	milliseconds
mM	-	millimolar
NA	-	not applicable
no.	-	number
OECD	-	Organisation for Economic Cooperation and Development
OPPTS	-	Office of Prevention, Pesticides and Toxic Substances
RSD	-	Relative standard deviation
SOP	-	standard operating procedure
WIL Research	-	WIL Research Laboratories, LLC
WTDMS™	-	WIL Toxicology Data Management System
wt(s).	-	weight(s)

FIGURES 1 - 2

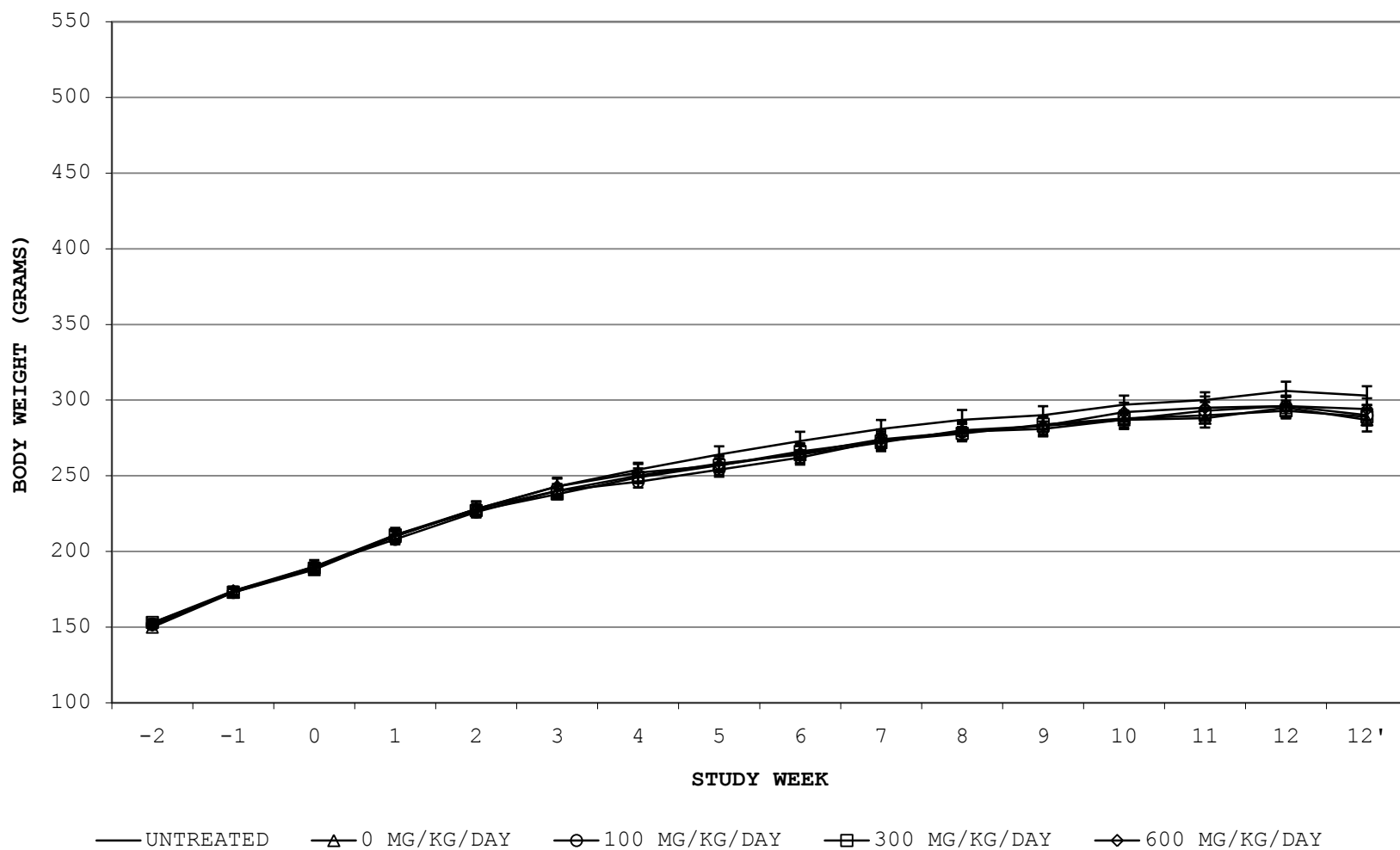
PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

FIGURE 1 (MALES)
SUMMARY OF BODY WEIGHTS [G]
DATA PRESENTED AS MEAN $\pm$ SE



PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

FIGURE 2 (FEMALES)
SUMMARY OF BODY WEIGHTS [G]
DATA PRESENTED AS MEAN $\pm$ SE



TABLES S1 - S16

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SURVIVAL AND DISPOSITION

PAGE 1

MALES																			
GROUP : 1					2					3					4				
WEEK	LIVE	FD	EE	SE	LIVE	FD	EE	SE		LIVE	FD	EE	SE		LIVE	FD	EE	SE	
0	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
1	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
2	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
3	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
4	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
5	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
6	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
7	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
8	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
9	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
10	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
11	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
12	0	0	0	10	0	0	0	10		0	0	0	10		0	0	0	10	
WEEK = WEEK OF STUDY FD = FOUND DEAD EE = EUTHANIZED IN EXTREMIS SE = SCHEDULED EUTHANASIA																			
1-	UNTREATED				2-	0 MG/KG/DAY				3-	100 MG/KG/DAY				4-	300 MG/KG/DAY			
																5- 600 MG/KG/DAY			

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SURVIVAL AND DISPOSITION

PAGE 2

FEMALES																			
GROUP : 1					2					3					4				
WEEK	LIVE	FD	EE	SE	LIVE	FD	EE	SE		LIVE	FD	EE	SE		LIVE	FD	EE	SE	
0	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
1	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
2	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
3	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
4	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
5	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
6	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
7	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
8	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
9	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
10	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
11	10	0	0	0	10	0	0	0		10	0	0	0		10	0	0	0	
12	0	0	0	10	0	0	0	10		0	0	0	10		0	0	0	10	
WEEK = WEEK OF STUDY FD = FOUND DEAD EE = EUTHANIZED IN EXTREMIS SE = SCHEDULED EUTHANASIA																			
1-	UNTREATED				2-	0 MG/KG/DAY				3-	100 MG/KG/DAY				4-	300 MG/KG/DAY			
																5- 600 MG/KG/DAY			

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08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 1

----- M A L E -----					
TABLE RANGE: GROUP:	1	DAY 000 TO DAY 090 2	3	4	5
NORMAL					
-NO SIGNIFICANT CLINICAL OBSERVATIONS	80/10	51/10	72/10	88/10	76/10
DISPOSITION					
-PRIMARY NECROPSY (WEEK 12)	10/10	10/10	10/10	10/10	10/10
BEHAVIOR/CNS					
-VOCALIZATION DURING HANDLING	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
BODY/INTEGUMENT					
-HAIR LOSS FORELIMB(S)	8/ 1	2/ 2	7/ 1	10/ 3	2/ 2
-HAIR LOSS FACIAL AREA	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0
-HAIR LOSS DORSAL NECK	13/ 9	29/ 9	20/ 7	4/ 2	23/ 5
-HAIR LOSS VENTRAL NECK	51/10	60/10	47/10	38/10	46/10
-MOIST ALOPECIA VENTRAL NECK	0/ 0	2/ 2	0/ 0	0/ 0	0/ 0
-HAIR LOSS RIGHT LATERAL NECK	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
EYES/EARS/NOSE					
-DRIED RED MATERIAL AROUND NOSE	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
EXCRETA					
-SOFT FECES	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- M A L E -----

TABLE RANGE: GROUP:	1	DAY 000 TO DAY 090 2	3	4	5
BODY/INTEG II					
-SCABBING FACIAL AREA	0/ 0	0/ 0	0/ 0	2/ 1	2/ 2
-SCABBING DORSAL NECK	5/ 4	29/ 8	12/ 7	4/ 2	15/ 7
-SCABBING RIGHT LATERAL NECK	0/ 0	1/ 1	4/ 3	1/ 1	0/ 0
-SCABBING VENTRAL NECK	11/ 6	35/ 9	19/ 8	5/ 3	11/ 7
-SCABBING DORSAL TRUNK	1/ 1	1/ 1	0/ 0	0/ 0	1/ 1
-SCABBING RIGHT EAR	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-SCABBING LEFT LATERAL NECK	0/ 0	1/ 1	2/ 2	2/ 2	1/ 1
ORAL/DENTAL					
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 3

----- F E M A L E -----

TABLE RANGE: GROUP:	1	DAY 000 TO DAY 090 2	3	4	5
NORMAL					
-NO SIGNIFICANT CLINICAL OBSERVATIONS	110/10	102/10	129/10	119/10	104/10
DISPOSITION					
-PRIMARY NECROPSY (WEEK 12)	10/10	10/10	10/10	10/10	10/10
BODY/INTEGUMENT					
-HAIR LOSS FORELIMB(S)	1/ 1	0/ 0	0/ 0	0/ 0	2/ 1
-HAIR LOSS FACIAL AREA	0/ 0	0/ 0	0/ 0	1/ 1	7/ 3
-HAIR LOSS DORSAL NECK	6/ 3	9/ 2	0/ 0	6/ 3	18/ 5
-HAIR LOSS VENTRAL NECK	26/ 7	33/ 9	5/ 4	18/ 7	22/ 7
-MOIST ALOPECIA RIGHT EAR	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
CARDIO-PULMONARY					
-RALES	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
EYES/EARS/NOSE					
-DRIED RED MATERIAL AROUND NOSE	0/ 0	1/ 1	3/ 2	0/ 0	0/ 0
-DRIED RED MATERIAL AROUND RIGHT EYE	0/ 0	0/ 0	1/ 1	0/ 0	3/ 2
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	0/ 0	1/ 1	0/ 0	2/ 2
BODY/INTEG II					
-SCABBING FACIAL AREA	0/ 0	0/ 0	0/ 0	0/ 0	3/ 2
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 4

----- F E M A L E -----

TABLE RANGE: GROUP:	1	DAY 000 TO DAY 090 2	3	4	5
BODY/INTEG II					
-SCABBING DORSAL NECK	4/ 2	6/ 4	1/ 1	2/ 2	3/ 1
-SCABBING VENTRAL NECK	1/ 1	5/ 2	0/ 0	1/ 1	2/ 2
-SCABBING DORSAL TRUNK	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0
-SCABBING LEFT LATERAL NECK	0/ 0	2/ 1	1/ 1	0/ 0	0/ 0
ORAL/DENTAL					
-WET CLEAR MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-WET CLEAR MATERIAL VENTRAL NECK	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-WET CLEAR MATERIAL FORELIMB(S)	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
SPECIAL II					
-WET RED MATERIAL RIGHT EAR	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

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11/04/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF POST-DOSE FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 1

----- M A L E -----

TABLE RANGE: GROUP:		DAY 0 TO DAY 89 1	2	3	4	5
NORMAL						
PRIOR TO DOSING						
-NO SIGNIFICANT CLINICAL OBSERVATIONS		649/10	646/10	648/10	649/10	649/10
1-2 HOUR POST-DOSING						
-NO SIGNIFICANT CLINICAL OBSERVATIONS		649/10	648/10	648/10	648/10	649/10
EYES/EARS/NOSE						
PRIOR TO DOSING						
-DRIED RED MATERIAL AROUND NOSE		0/0	1/1	1/1	0/0	0/0
1-2 HOUR POST-DOSING						
-DRIED RED MATERIAL AROUND NOSE		0/0	0/0	1/1	0/0	0/0
EXCRETA						
PRIOR TO DOSING						
-RED PENILE DISCHARGE		0/0	1/1	0/0	0/0	0/0
1-2 HOUR POST-DOSING						
-SOFT FECES		0/0	0/0	0/0	1/1	0/0
SPECIAL						
PRIOR TO DOSING						
-SWOLLEN FACIAL AREA		1/1	2/1	1/1	1/1	1/1
1-2 HOUR POST-DOSING						
-SWOLLEN FACIAL AREA		1/1	2/1	1/1	1/1	1/1
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF POST-DOSE FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- F E M A L E -----

TABLE RANGE:		DAY 0 TO DAY 89				
GROUP:		1	2	3	4	5

NORMAL						
PRIOR TO DOSING						
-NO SIGNIFICANT CLINICAL OBSERVATIONS		649/10	650/10	650/10	646/10	649/10
1-2 HOUR POST-DOSING						
-NO SIGNIFICANT CLINICAL OBSERVATIONS		650/10	650/10	650/10	647/10	650/10
BEHAVIOR/CNS						
PRIOR TO DOSING						
-IMPAIRED USE OF RIGHT FORELIMB		0/0	0/0	0/0	1/1	0/0
1-2 HOUR POST-DOSING						
-IMPAIRED USE OF RIGHT FORELIMB		0/0	0/0	0/0	1/1	0/0
EYES/EARS/NOSE						
PRIOR TO DOSING						
-DRIED RED MATERIAL AROUND RIGHT EYE		0/0	0/0	0/0	0/0	2/1
-DRIED RED MATERIAL AROUND LEFT EYE		0/0	0/0	0/0	0/0	1/1
ORAL/DENTAL						
PRIOR TO DOSING						
-WET CLEAR MATERIAL AROUND MOUTH		0/0	0/0	0/0	1/1	0/0
-WET CLEAR MATERIAL VENTRAL NECK		0/0	0/0	0/0	1/1	0/0

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF POST-DOSE FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 3

----- F E M A L E -----

TABLE RANGE:		DAY 0 TO DAY 89				
GROUP:		1	2	3	4	5

SPECIAL						
PRIOR TO DOSING						
-SWOLLEN FACIAL AREA		1/1	0/0	0/0	1/1	0/0
-SWOLLEN RIGHT FORELIMB		0/0	0/0	0/0	1/1	0/0
-REDDENED RIGHT FORELIMB		0/0	0/0	0/0	2/1	0/0
1-2 HOUR POST-DOSING						
-SWOLLEN FACIAL AREA		0/0	0/0	0/0	1/1	0/0
-SWOLLEN RIGHT FORELIMB		0/0	0/0	0/0	1/1	0/0
-REDDENED RIGHT FORELIMB		0/0	0/0	0/0	2/1	0/0

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY		

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11/04/2011

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE S4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 1

----- M A L E -----					

TABLE RANGE:	DAY 005 TO DAY 090				
GROUP:	1	2	3	4	5

NORMAL					
-NO SIGNIFICANT CLINICAL OBSERVATIONS	248/10	244/10	247/10	245/10	242/10
EYES/EARS/NOSE					
-DRIED RED MATERIAL AROUND LEFT EYE	1/ 1	3/ 2	1/ 1	6/ 4	5/ 3
-DRIED RED MATERIAL AROUND RIGHT EYE	1/ 1	1/ 1	1/ 1	6/ 4	3/ 2
-DRIED RED MATERIAL AROUND NOSE	7/ 6	6/ 5	7/ 6	7/ 5	9/ 6
ORAL/DENTAL					
-WET RED MATERIAL AROUND MOUTH	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
BODY/INTEG III					
-DRIED RED MATERIAL DORSAL NECK	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE S4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- F E M A L E -----

TABLE RANGE: GROUP:	1	DAY 005 TO DAY 090 2	3	4	5
NORMAL					
-NO SIGNIFICANT CLINICAL OBSERVATIONS	250/10	252/10	244/10	244/10	242/10
EYES/EARS/NOSE					
-DRIED RED MATERIAL AROUND LEFT EYE	0/ 0	0/ 0	5/ 4	5/ 4	8/ 4
-DRIED RED MATERIAL AROUND RIGHT EYE	1/ 1	0/ 0	5/ 3	4/ 4	6/ 3
-DRIED RED MATERIAL AROUND NOSE	4/ 4	3/ 3	8/ 5	6/ 5	7/ 6
SPECIAL					
-REDDENED RIGHT FORELIMB	0/ 0	0/ 0	0/ 0	2/ 1	0/ 0

1- UNTREATED 2- 0 MG/KG/DAY 3- 100 MG/KG/DAY 4- 300 MG/KG/DAY 5- 600 MG/KG/DAY

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11/04/2011
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF DERMAL OBSERVATIONS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 1

----- M A L E -----

TABLE RANGE: GROUP:	1	DAY 004 TO DAY 089 2	3	4	5
DERMAL OBS					
-SCORED, NOT REMARKABLE	130/10	90/10	107/10	107/10	92/10
-NO ERYTHEMA	0/ 0	14/ 6	9/ 7	11/ 8	20/ 8
-ERYTHEMA - VERY SLIGHT	0/ 0	20/ 8	11/ 6	6/ 4	8/ 6
-ERYTHEMA - SLIGHT	0/ 0	4/ 3	3/ 3	5/ 5	8/ 6
-ERYTHEMA - MODERATE	0/ 0	2/ 1	0/ 0	1/ 1	2/ 2
-NO EDEMA	0/ 0	40/ 9	23/ 7	22/10	35/10
-EDEMA - VERY SLIGHT	0/ 0	0/ 0	0/ 0	1/ 1	2/ 2
-EDEMA - SLIGHT	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
-DESQUAMATION	0/ 0	11/ 6	10/ 5	7/ 4	27/10
-RESIDUAL TEST SUBSTANCE WITHIN DOSE SITE	0/ 0	2/ 2	6/ 6	8/ 8	8/ 7
-SCABBING WITHIN DOSE SITE	0/ 0	11/ 6	4/ 3	4/ 3	6/ 3
-PINPOINT SCABBING	0/ 0	2/ 2	0/ 0	0/ 0	0/ 0
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF DERMAL OBSERVATIONS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- F E M A L E -----

TABLE RANGE: GROUP:	1	DAY 004 TO DAY 089 2	3	4	5
DERMAL OBS					
-SCORED, NOT REMARKABLE	128/10	97/10	120/10	122/10	107/10
-NO ERYTHEMA	2/ 2	15/ 8	7/ 5	7/ 6	18/ 9
-ERYTHEMA - VERY SLIGHT	0/ 0	10/ 7	3/ 3	1/ 1	5/ 4
-ERYTHEMA - SLIGHT	0/ 0	6/ 2	0/ 0	0/ 0	0/ 0
-ERYTHEMA - MODERATE	0/ 0	2/ 1	0/ 0	0/ 0	0/ 0
-NO EDEMA	2/ 2	25/10	10/ 6	8/ 6	23/10
-EDEMA - VERY SLIGHT	0/ 0	5/ 3	0/ 0	0/ 0	0/ 0
-EDEMA - SLIGHT	0/ 0	3/ 1	0/ 0	0/ 0	0/ 0
-DESQUAMATION	2/ 2	8/ 5	4/ 3	6/ 5	11/ 7
-RESIDUAL TEST SUBSTANCE WITHIN DOSE SITE	0/ 0	2/ 2	5/ 5	1/ 1	10/10
-SCABBING WITHIN DOSE SITE	0/ 0	6/ 3	0/ 0	0/ 0	0/ 0
-PINPOINT SCABBING	0/ 0	6/ 3	0/ 0	1/ 1	0/ 0
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

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11/04/2011
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TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2					
	MEAN	191.	192.	192.	191.	192.
% DIFFERENCE			0.5	0.5	0.0	0.5
	S.D.	6.6	8.4	9.7	9.5	4.2
	S.E.	2.1	2.6	3.1	3.0	1.3
	N	10	10	10	10	10
	-1					
	MEAN	237.	236.	236.	237.	236.
% DIFFERENCE			-0.4	-0.4	0.0	-0.4
	S.D.	9.6	11.8	9.0	8.1	9.3
	S.E.	3.0	3.7	2.8	2.6	3.0
	N	10	10	10	10	10
	0					
	MEAN	265.	270.	271.	273.	270.
% DIFFERENCE			1.9	2.3	3.0	1.9
	S.D.	15.1	14.4	10.5	8.1	11.1
	S.E.	4.8	4.5	3.3	2.5	3.5
	N	10	10	10	10	10
	1					
	MEAN	305.	305.	304.	311.	301.
% DIFFERENCE			0.0	-0.3	2.0	-1.3
	S.D.	19.6	13.9	14.1	7.6	16.5
	S.E.	6.2	4.4	4.5	2.4	5.2
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

GROUP:		MALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	2					
	MEAN	336.	332.	335.	342.	330.
% DIFFERENCE			-1.2	-0.3	1.8	-1.8
	S.D.	23.7	16.8	17.9	12.4	20.6
	S.E.	7.5	5.3	5.7	3.9	6.5
	N	10	10	10	10	10
	3					
	MEAN	363.	356.	359.	369.	361.
% DIFFERENCE			-1.9	-1.1	1.7	-0.6
	S.D.	28.3	17.3	19.7	8.7	23.9
	S.E.	9.0	5.5	6.2	2.8	7.5
	N	10	10	10	10	10
	4					
	MEAN	382.	378.	380.	391.	381.
% DIFFERENCE			-1.0	-0.5	2.4	-0.3
	S.D.	30.2	18.3	21.4	10.5	25.9
	S.E.	9.5	5.8	6.8	3.3	8.2
	N	10	10	10	10	10
	5					
	MEAN	404.	397.	399.	413.	398.
% DIFFERENCE			-1.7	-1.2	2.2	-1.5
	S.D.	33.4	21.2	23.5	12.7	29.5
	S.E.	10.6	6.7	7.4	4.0	9.3
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK 6						
	MEAN	421.	416.	418.	434.	415.
% DIFFERENCE			-1.2	-0.7	3.1	-1.4
	S.D.	37.1	23.4	28.6	15.9	33.3
	S.E.	11.7	7.4	9.0	5.0	10.5
	N	10	10	10	10	10
WEEK 7						
	MEAN	440.	437.	438.	456.	435.
% DIFFERENCE			-0.7	-0.5	3.6	-1.1
	S.D.	36.3	23.8	32.2	15.5	32.9
	S.E.	11.5	7.5	10.2	4.9	10.4
	N	10	10	10	10	10
WEEK 8						
	MEAN	455.	452.	449.	468.	448.
% DIFFERENCE			-0.7	-1.3	2.9	-1.5
	S.D.	37.7	26.3	33.5	13.9	32.0
	S.E.	11.9	8.3	10.6	4.4	10.1
	N	10	10	10	10	10
WEEK 9						
	MEAN	469.	465.	461.	483.	459.
% DIFFERENCE			-0.9	-1.7	3.0	-2.1
	S.D.	40.5	26.7	34.8	14.4	29.6
	S.E.	12.8	8.5	11.0	4.6	9.4
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	10					
	MEAN	481.	478.	475.	498.	474.
% DIFFERENCE			-0.6	-1.2	3.5	-1.5
	S.D.	38.8	26.3	34.5	15.8	29.5
	S.E.	12.3	8.3	10.9	5.0	9.3
	N	10	10	10	10	10
	11					
	MEAN	495.	490.	484.	511.	483.
% DIFFERENCE			-1.0	-2.2	3.2	-2.4
	S.D.	39.1	29.0	41.2	16.4	30.5
	S.E.	12.4	9.2	13.0	5.2	9.6
	N	10	10	10	10	10
	12					
	MEAN	506.	501.	496.	522.	488.
% DIFFERENCE			-1.0	-2.0	3.2	-3.6
	S.D.	40.7	30.0	41.2	17.5	29.5
	S.E.	12.9	9.5	13.0	5.5	9.3
	N	10	10	10	10	10
	12'					
	MEAN	504.	497.	495.	514.	486.
% DIFFERENCE			-1.4	-1.8	2.0	-3.6
	S.D.	40.8	33.3	40.3	26.3	31.6
	S.E.	12.9	10.5	12.7	8.3	10.0
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2					
	MEAN	153.	150.	152.	153.	151.
% DIFFERENCE			-2.0	-0.7	0.0	-1.3
	S.D.	7.2	5.5	6.1	6.8	5.7
	S.E.	2.3	1.7	1.9	2.2	1.8
	N	10	10	10	10	10
	-1					
	MEAN	174.	173.	173.	173.	174.
% DIFFERENCE			-0.6	-0.6	-0.6	0.0
	S.D.	8.5	7.7	7.0	7.3	8.2
	S.E.	2.7	2.4	2.2	2.3	2.6
	N	10	10	10	10	10
	0					
	MEAN	190.	188.	190.	189.	189.
% DIFFERENCE			-1.1	0.0	-0.5	-0.5
	S.D.	13.5	9.8	8.7	9.5	11.4
	S.E.	4.3	3.1	2.7	3.0	3.6
	N	10	10	10	10	10
	1					
	MEAN	211.	210.	208.	211.	210.
% DIFFERENCE			-0.5	-1.4	0.0	-0.5
	S.D.	14.4	10.3	10.3	9.1	13.4
	S.E.	4.6	3.3	3.3	2.9	4.2
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

		FEMALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	2					
	MEAN	228.	228.	226.	227.	228.
%	DIFFERENCE		0.0	-0.9	-0.4	0.0
	S.D.	15.1	10.6	11.0	10.6	16.4
	S.E.	4.8	3.4	3.5	3.3	5.2
	N	10	10	10	10	10
	3					
	MEAN	243.	240.	240.	238.	243.
%	DIFFERENCE		-1.2	-1.2	-2.1	0.0
	S.D.	16.5	14.4	13.5	10.9	18.1
	S.E.	5.2	4.6	4.3	3.5	5.7
	N	10	10	10	10	10
	4					
	MEAN	254.	250.	246.	249.	252.
%	DIFFERENCE		-1.6	-3.1	-2.0	-0.8
	S.D.	14.6	15.4	12.1	10.9	18.2
	S.E.	4.6	4.9	3.8	3.4	5.8
	N	10	10	10	10	10
	5					
	MEAN	264.	258.	254.	257.	257.
%	DIFFERENCE		-2.3	-3.8	-2.7	-2.7
	S.D.	17.3	15.7	14.6	14.6	20.3
	S.E.	5.5	5.0	4.6	4.6	6.4
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	6					
	MEAN	273.	264.	262.	266.	265.
% DIFFERENCE			-3.3	-4.0	-2.6	-2.9
	S.D.	19.4	17.7	14.5	15.5	20.6
	S.E.	6.1	5.6	4.6	4.9	6.5
	N	10	10	10	10	10
	7					
	MEAN	281.	272.	273.	273.	274.
% DIFFERENCE			-3.2	-2.8	-2.8	-2.5
	S.D.	18.7	18.1	19.8	15.9	20.8
	S.E.	5.9	5.7	6.3	5.0	6.6
	N	10	10	10	10	10
	8					
	MEAN	287.	280.	279.	278.	279.
% DIFFERENCE			-2.4	-2.8	-3.1	-2.8
	S.D.	20.4	20.4	16.7	13.5	19.7
	S.E.	6.5	6.5	5.3	4.3	6.2
	N	10	10	10	10	10
	9					
	MEAN	290.	283.	281.	284.	283.
% DIFFERENCE			-2.4	-3.1	-2.1	-2.4
	S.D.	19.0	18.1	15.4	16.2	21.1
	S.E.	6.0	5.7	4.9	5.1	6.7
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHTS [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK 10	MEAN	297.	287.	287.	288.	292.
	% DIFFERENCE		-3.4	-3.4	-3.0	-1.7
	S.D.	18.8	19.3	16.4	14.6	20.0
	S.E.	6.0	6.1	5.2	4.6	6.3
	N	10	10	10	10	10
11	MEAN	300.	288.	293.	290.	295.
	% DIFFERENCE		-4.0	-2.3	-3.3	-1.7
	S.D.	16.5	19.4	18.0	16.0	23.3
	S.E.	5.2	6.1	5.7	5.1	7.4
	N	10	10	10	10	10
12	MEAN	306.	295.	296.	293.	296.
	% DIFFERENCE		-3.6	-3.3	-4.2	-3.3
	S.D.	19.6	22.5	20.5	14.7	22.0
	S.E.	6.2	7.1	6.5	4.7	7.0
	N	10	10	10	10	10
12'	MEAN	303.	287.	290.	289.	294.
	% DIFFERENCE		-5.3	-4.3	-4.6	-3.0
	S.D.	19.5	24.5	21.2	16.2	22.8
	S.E.	6.2	7.7	6.7	5.1	7.2
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

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TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2 TO -1					
	MEAN	45.	44.	44.	46.	44.
	S.D.	4.3	8.2	4.5	6.5	8.4
	S.E.	1.4	2.6	1.4	2.0	2.7
	N	10	10	10	10	10
	-1 TO 0					
	MEAN	29.	34.	35.	36.	34.
	S.D.	7.6	8.9	7.4	2.8	3.9
	S.E.	2.4	2.8	2.3	0.9	1.2
	N	10	10	10	10	10
	0 TO 1					
	MEAN	40.	35.	33.	38.	31.
	S.D.	9.4	8.8	6.4	5.8	11.3
	S.E.	3.0	2.8	2.0	1.8	3.6
	N	10	10	10	10	10
	1 TO 2					
	MEAN	31.	27.	32.	31.	30.
	S.D.	5.9	6.2	6.9	7.1	6.7
	S.E.	1.9	1.9	2.2	2.2	2.1
	N	10	10	10	10	10
	2 TO 3					
	MEAN	27.	24.	23.	27.	31.
	S.D.	6.7	4.6	3.7	9.8	4.3
	S.E.	2.1	1.5	1.2	3.1	1.4
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

			MALES				
GROUP:			UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	3 TO	4					
		MEAN	20.	22.	22.	22.	20.
		S.D.	4.2	5.3	5.6	5.8	5.1
		S.E.	1.3	1.7	1.8	1.8	1.6
		N	10	10	10	10	10
	4 TO	5					
		MEAN	22.	19.	19.	22.	17.
		S.D.	5.2	8.1	6.3	5.1	6.3
		S.E.	1.6	2.6	2.0	1.6	2.0
		N	10	10	10	10	10
	5 TO	6					
		MEAN	17.	19.	19.	21.	17.
		S.D.	7.6	6.2	8.5	5.1	8.5
		S.E.	2.4	2.0	2.7	1.6	2.7
		N	10	10	10	10	10
	6 TO	7					
		MEAN	19.	21.	20.	22.	20.
		S.D.	5.7	4.5	6.3	5.2	6.3
		S.E.	1.8	1.4	2.0	1.6	2.0
		N	10	10	10	10	10
	7 TO	8					
		MEAN	15.	15.	11.	13.	13.
		S.D.	8.1	5.2	5.2	4.7	7.3
		S.E.	2.6	1.6	1.6	1.5	2.3
		N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	8 TO 9					
	MEAN	14.	14.	12.	15.	10.
	S.D.	5.8	2.8	4.9	6.4	6.9
	S.E.	1.8	0.9	1.6	2.0	2.2
	N	10	10	10	10	10
	9 TO 10					
	MEAN	12.	13.	15.	15.	15.
	S.D.	3.6	5.2	2.8	4.7	3.6
	S.E.	1.1	1.6	0.9	1.5	1.1
	N	10	10	10	10	10
	10 TO 11					
	MEAN	14.	12.	9.	12.	9.
	S.D.	7.0	4.9	13.4	4.7	7.4
	S.E.	2.2	1.6	4.2	1.5	2.3
	N	10	10	10	10	10
	11 TO 12					
	MEAN	11.	12.	12.	11.	5.
	S.D.	4.3	5.0	9.7	4.3	8.7
	S.E.	1.4	1.6	3.1	1.4	2.7
	N	10	10	10	10	10
	12 TO 12'					
	MEAN	-2.	-5.	-2.	-8.	-2.
	S.D.	6.5	6.9	6.2	16.8	6.4
	S.E.	2.0	2.2	2.0	5.3	2.0
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2 TO -1					
	MEAN	21.	23.	22.	21.	23.
	S.D.	4.6	5.8	3.2	4.6	5.1
	S.E.	1.4	1.8	1.0	1.5	1.6
	N	10	10	10	10	10
	-1 TO 0					
	MEAN	16.	15.	16.	15.	15.
	S.D.	6.2	3.7	3.4	4.1	4.4
	S.E.	2.0	1.2	1.1	1.3	1.4
	N	10	10	10	10	10
	0 TO 1					
	MEAN	21.	23.	18.	22.	21.
	S.D.	5.8	6.1	5.3	4.4	3.9
	S.E.	1.8	1.9	1.7	1.4	1.2
	N	10	10	10	10	10
	1 TO 2					
	MEAN	18.	17.	18.	17.	18.
	S.D.	4.4	4.7	4.4	3.6	4.4
	S.E.	1.4	1.5	1.4	1.1	1.4
	N	10	10	10	10	10
	2 TO 3					
	MEAN	15.	12.	15.	11.	15.
	S.D.	6.2	5.8	5.9	5.0	6.0
	S.E.	1.9	1.8	1.9	1.6	1.9
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

		FEMALES					
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY	
WEEK	3 TO 4						
	MEAN	11.	10.	6.	12.	9.	
	S.D.	5.8	5.1	5.2	4.2	4.9	
	S.E.	1.8	1.6	1.6	1.3	1.5	
	N	10	10	10	10	10	
	4 TO 5						
	MEAN	10.	8.	7.	8.	5.	
	S.D.	4.6	4.7	7.7	5.7	5.9	
	S.E.	1.5	1.5	2.4	1.8	1.9	
	N	10	10	10	10	10	
	5 TO 6						
	MEAN	9.	6.	9.	8.	9.	
	S.D.	3.5	3.3	6.3	6.4	3.4	
	S.E.	1.1	1.1	2.0	2.0	1.1	
	N	10	10	10	10	10	
	6 TO 7						
	MEAN	8.	8.	11.	7.	9.	
	S.D.	4.4	4.8	7.5	5.7	3.4	
	S.E.	1.4	1.5	2.4	1.8	1.1	
	N	10	10	10	10	10	
	7 TO 8						
	MEAN	6.	8.	5.	5.	5.	
	S.D.	6.3	7.8	7.2	5.5	4.0	
	S.E.	2.0	2.5	2.3	1.7	1.3	
	N	10	10	10	10	10	

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF BODY WEIGHT CHANGES [G]

		FEMALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	8 TO 9					
	MEAN	3.	4.	2.	6.	4.
	S.D.	4.1	8.5	6.7	4.5	4.6
	S.E.	1.3	2.7	2.1	1.4	1.5
	N	10	10	10	10	10
	9 TO 10					
	MEAN	7.	4.	6.	4.	8.
	S.D.	5.4	5.8	7.2	4.8	3.9
	S.E.	1.7	1.8	2.3	1.5	1.2
	N	10	10	10	10	10
	10 TO 11					
	MEAN	3.	0.	6.	3.	3.
	S.D.	6.0	6.1	6.5	6.1	5.9
	S.E.	1.9	1.9	2.1	1.9	1.9
	N	10	10	10	10	10
	11 TO 12					
	MEAN	6.	7.	3.	3.	2.
	S.D.	3.7	8.6	6.3	7.2	4.2
	S.E.	1.2	2.7	2.0	2.3	1.3
	N	10	10	10	10	10
	12 TO 12'					
	MEAN	-3.	-8. c	-6.	-4.	-2. a
	S.D.	4.2	5.1	4.2	4.7	4.0
	S.E.	1.3	1.6	1.3	1.5	1.3
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
a = Significantly different from control group 2 at 0.05 using Dunnett's test
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO					
	1					
	MEAN	40.	35.	33.	38.	31.
	S.D.	9.4	8.8	6.4	5.8	11.3
	S.E.	3.0	2.8	2.0	1.8	3.6
	N	10	10	10	10	10
	0 TO 2					
	MEAN	71.	62.	65.	69.	60.
	S.D.	13.9	12.0	9.6	7.4	16.8
	S.E.	4.4	3.8	3.0	2.3	5.3
	N	10	10	10	10	10
	0 TO 3					
	MEAN	97.	87.	88.	96.	92.
	S.D.	19.8	15.1	11.9	8.3	20.1
	S.E.	6.3	4.8	3.8	2.6	6.4
	N	10	10	10	10	10
	0 TO 4					
	MEAN	117.	108.	110.	118.	111.
	S.D.	21.8	16.9	15.3	8.0	20.8
	S.E.	6.9	5.4	4.8	2.5	6.6
	N	10	10	10	10	10
	0 TO 5					
	MEAN	139.	127.	128.	140.	128.
	S.D.	24.7	19.8	17.1	11.6	24.9
	S.E.	7.8	6.3	5.4	3.7	7.9
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO					
	6					
	MEAN	156.	146.	147.	161.	145.
	S.D.	29.4	20.7	22.3	14.3	28.2
	S.E.	9.3	6.5	7.1	4.5	8.9
	N	10	10	10	10	10
	0 TO 7					
	MEAN	175.	167.	167.	182.	165.
	S.D.	28.5	20.7	25.2	15.2	26.9
	S.E.	9.0	6.5	8.0	4.8	8.5
	N	10	10	10	10	10
	0 TO 8					
	MEAN	190.	182.	178.	195.	178.
	S.D.	30.6	22.7	26.9	13.9	25.7
	S.E.	9.7	7.2	8.5	4.4	8.1
	N	10	10	10	10	10
	0 TO 9					
	MEAN	204.	196.	190.	210.	189.
	S.D.	33.8	23.4	27.9	16.0	23.4
	S.E.	10.7	7.4	8.8	5.1	7.4
	N	10	10	10	10	10
	0 TO 10					
	MEAN	216.	208.	205.	225.	204.
	S.D.	31.9	21.7	27.5	16.8	23.1
	S.E.	10.1	6.9	8.7	5.3	7.3
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO 11					
	MEAN	229.	220.	214.	237.	213.
	S.D.	31.8	23.0	33.6	18.3	24.6
	S.E.	10.1	7.3	10.6	5.8	7.8
	N	10	10	10	10	10
	0 TO 12					
	MEAN	241.	232.	226.	249.	218.
	S.D.	33.1	24.0	33.4	20.1	23.6
	S.E.	10.5	7.6	10.6	6.3	7.5
	N	10	10	10	10	10
	0 TO 12'					
	MEAN	239.	227.	224.	240.	217.
	S.D.	34.5	28.1	32.2	27.8	26.0
	S.E.	10.9	8.9	10.2	8.8	8.2
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO					
	1					
	MEAN	21.	23.	18.	22.	21.
	S.D.	5.8	6.1	5.3	4.4	3.9
	S.E.	1.8	1.9	1.7	1.4	1.2
	N	10	10	10	10	10
	0 TO 2					
	MEAN	38.	40.	36.	39.	39.
	S.D.	6.7	6.3	6.5	3.5	6.5
	S.E.	2.1	2.0	2.1	1.1	2.0
	N	10	10	10	10	10
	0 TO 3					
	MEAN	53.	52.	51.	49.	53.
	S.D.	6.5	9.5	7.2	4.0	8.7
	S.E.	2.0	3.0	2.3	1.3	2.8
	N	10	10	10	10	10
	0 TO 4					
	MEAN	65.	62.	57.	61.	62.
	S.D.	6.2	8.9	7.4	7.3	7.9
	S.E.	2.0	2.8	2.3	2.3	2.5
	N	10	10	10	10	10
	0 TO 5					
	MEAN	74.	70.	64.	69.	68.
	S.D.	6.8	11.0	8.2	8.3	10.4
	S.E.	2.1	3.5	2.6	2.6	3.3
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO					
	6					
	MEAN	83.	77.	73.	77.	76.
	S.D.	8.7	12.4	7.9	9.1	11.3
	S.E.	2.7	3.9	2.5	2.9	3.6
	N	10	10	10	10	10
	0 TO 7					
	MEAN	91.	85.	84.	84.	85.
	S.D.	10.0	13.1	13.1	8.9	11.0
	S.E.	3.2	4.1	4.1	2.8	3.5
	N	10	10	10	10	10
	0 TO 8					
	MEAN	97.	92.	89.	89.	90.
	S.D.	10.9	14.5	9.5	8.2	10.0
	S.E.	3.4	4.6	3.0	2.6	3.2
	N	10	10	10	10	10
	0 TO 9					
	MEAN	100.	96.	91.	95.	94.
	S.D.	9.5	13.8	9.1	9.0	11.9
	S.E.	3.0	4.4	2.9	2.8	3.8
	N	10	10	10	10	10
	0 TO 10					
	MEAN	107.	100.	97.	99.	102.
	S.D.	9.5	15.7	10.0	7.8	11.3
	S.E.	3.0	5.0	3.2	2.5	3.6
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

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TABLE S8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CUMULATIVE BODY WEIGHT CHANGES [G]

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GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	0 TO 11					
	MEAN	110.	100.	103.	102.	105.
	S.D.	8.7	16.1	10.6	11.3	14.6
	S.E.	2.8	5.1	3.4	3.6	4.6
	N	10	10	10	10	10
	0 TO 12					
	MEAN	116.	107.	106.	104.	107.
	S.D.	10.5	17.9	13.6	10.3	13.1
	S.E.	3.3	5.6	4.3	3.2	4.2
	N	10	10	10	10	10
	0 TO 12'					
	MEAN	113.	99.	100.	100.	105.
	S.D.	11.3	20.7	14.5	11.6	14.3
	S.E.	3.6	6.5	4.6	3.7	4.5
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

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TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2 TO -1					
	MEAN	26.	26.	26.	26.	26.
	S.D.	2.0	1.8	2.4	2.2	2.1
	S.E.	0.6	0.6	0.8	0.7	0.7
	N	10	10	10	10	10
	0 TO 1					
	MEAN	28.	30.	31.	34.	31.
	S.D.	4.5	1.8	3.7	6.1	3.4
	S.E.	1.4	0.6	1.2	1.9	1.1
	N	10	10	10	10	10
	1 TO 2					
	MEAN	33.	33.	33.	35.	34.
	S.D.	2.2	2.3	2.0	4.3	3.5
	S.E.	0.7	0.7	0.6	1.3	1.1
	N	10	10	10	10	10
	2 TO 3					
	MEAN	34.	36.	36.	38.	38.
	S.D.	1.5	2.6	3.2	4.5	3.2
	S.E.	0.5	0.8	1.0	1.4	1.0
	N	10	10	10	10	10
	3 TO 4					
	MEAN	33.	35.c	34.	38.	36.
	S.D.	1.9	2.3	2.0	4.6	2.7
	S.E.	0.6	0.7	0.6	1.5	0.9
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	4 TO 5					
	MEAN	34.	38. d	38.	37.	36.
	S.D.	2.4	2.5	2.3	3.5	2.8
	S.E.	0.7	0.8	0.7	1.1	0.9
	N	10	10	10	10	10
	5 TO 6					
	MEAN	35.	34.	35.	34.	36.
	S.D.	2.3	2.4	3.5	5.9	3.0
	S.E.	0.7	0.8	1.1	1.9	1.0
	N	10	10	10	10	10
	6 TO 7					
	MEAN	34.	35.	35.	37.	35.
	S.D.	1.8	1.2	3.5	3.5	2.7
	S.E.	0.6	0.4	1.1	1.1	0.8
	N	10	10	10	10	10
	7 TO 8					
	MEAN	37.	35.	36.	38.	37.
	S.D.	6.2	2.6	2.7	3.0	2.6
	S.E.	1.9	0.8	0.8	0.9	0.8
	N	10	10	10	10	10
	8 TO 9					
	MEAN	35.	36.	36.	37.	36.
	S.D.	2.5	2.2	3.1	2.8	1.6
	S.E.	0.8	0.7	1.0	0.9	0.5
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
d = Significantly different from control group 1 at 0.01 using Student's t-Test

TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

GROUP:		UNTREATED	MALES			
			0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	9 TO 10	MEAN	37.	37.	38.	39.
		S.D.	2.0	2.4	3.2	3.7
		S.E.	0.6	0.8	1.0	1.2
		N	10	10	10	10
	10 TO 11	MEAN	39.	37.	40.	37.
		S.D.	5.1	2.2	3.3	4.4
		S.E.	1.6	0.7	1.0	1.4
		N	10	10	10	10
	11 TO 12	MEAN	37.	38.	39.	37.
		S.D.	1.9	2.3	4.8	4.1
		S.E.	0.6	0.7	1.5	1.3
		N	10	10	10	10
	12 TO 12'	MEAN	39.	38.	37.	36.
		S.D.	2.6	2.6	3.9	9.1
		S.E.	0.8	0.8	1.2	2.9
		N	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group
' = SECOND WEEKLY INTERVAL

TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	-2 TO -1					
	MEAN	20.	20.	19.	20.	20.
	S.D.	2.3	1.5	1.3	1.7	1.2
	S.E.	0.7	0.5	0.4	0.5	0.4
	N	10	10	10	10	10
	0 TO 1					
	MEAN	23.	27.	25.	25.	24.
	S.D.	2.2	6.1	3.3	1.4	2.8
	S.E.	0.7	1.9	1.1	0.5	0.9
	N	10	10	10	10	10
	1 TO 2					
	MEAN	25.	27.	27.	29.	27.
	S.D.	1.9	2.7	3.9	4.0	1.5
	S.E.	0.6	0.8	1.2	1.3	0.5
	N	10	10	10	10	10
	2 TO 3					
	MEAN	27.	30. c	29.	31.	29.
	S.D.	2.4	2.5	2.8	4.0	1.8
	S.E.	0.7	0.8	0.9	1.3	0.6
	N	10	10	10	10	10
	3 TO 4					
	MEAN	27.	29. c	28.	31.	29.
	S.D.	1.9	2.3	3.1	2.5	1.9
	S.E.	0.6	0.7	1.0	0.8	0.6
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

GROUP:		UNTREATED	FEMALES			
			0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	4 TO 5					
	MEAN	26.	30. d	27.	29.	27.
	S.D.	1.5	3.8	2.5	2.6	4.5
	S.E.	0.5	1.2	0.8	0.8	1.4
	N	10	10	10	10	10
	5 TO 6					
	MEAN	26.	28.	27.	29.	28.
	S.D.	1.7	2.1	2.3	2.4	2.3
	S.E.	0.5	0.7	0.7	0.8	0.7
	N	10	10	10	10	10
	6 TO 7					
	MEAN	26.	28. c	26.	27.	27.
	S.D.	0.8	2.8	2.9	2.3	1.5
	S.E.	0.3	0.9	0.9	0.7	0.5
	N	10	10	10	10	10
	7 TO 8					
	MEAN	27.	28.	27.	30.	28.
	S.D.	1.7	2.6	2.7	3.7	2.0
	S.E.	0.5	0.8	0.8	1.2	0.6
	N	10	10	10	9	10
	8 TO 9					
	MEAN	26.	27.	26.	29.	28.
	S.D.	1.5	2.0	2.6	4.0	1.4
	S.E.	0.5	0.6	0.8	1.3	0.4
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test
d = Significantly different from control group 1 at 0.01 using Student's t-Test

TABLE S9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF FOOD CONSUMPTION [G/ANIMAL/DAY]

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WEEK	9 TO 10					
	MEAN	26.	28.	26.	29.	28.
	S.D.	1.8	2.5	3.2	3.1	2.0
	S.E.	0.6	0.8	1.0	1.0	0.6
	N	10	10	10	10	10
	10 TO 11					
	MEAN	27.	28.	27.	32. a	27.
	S.D.	2.4	2.4	3.0	5.1	1.5
	S.E.	0.7	0.8	1.0	1.6	0.5
	N	10	10	10	10	10
	11 TO 12					
	MEAN	28.	28.	24.	28.	28.
	S.D.	4.2	3.2	8.2	2.8	1.8
	S.E.	1.3	1.0	2.6	0.9	0.6
	N	10	10	10	10	10
	12 TO 12'					
	MEAN	29.	31.	26. b	29.	29.
	S.D.	2.7	3.2	3.1	2.7	4.0
	S.E.	0.9	1.0	1.0	0.9	1.3
	N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.

a = Significantly different from control group 2 at 0.05 using Dunnett's test

b = Significantly different from control group 2 at 0.01 using Dunnett's test

' = SECOND WEEKLY INTERVAL

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
WBC (thous/uL)						
WEEK 12	MEAN	9.11	10.46	10.08	11.01	10.08
	% DIFFERENCE		14.8	10.6	20.9	10.6
	S.D.	2.134	1.875	3.003	2.442	1.871
	S.E.	0.675	0.593	0.950	0.772	0.592
	N	10	10	10	10	10
RBC (mil/uL)						
WEEK 12	MEAN	9.12	9.10	9.12	9.12	9.01
	% DIFFERENCE		-0.2	0.0	0.0	-1.2
	S.D.	0.598	0.449	0.607	0.414	0.350
	S.E.	0.189	0.142	0.192	0.131	0.111
	N	10	10	10	10	10
HGB (g/dL)						
WEEK 12	MEAN	15.8	15.6	15.7	15.5	15.5
	% DIFFERENCE		-1.3	-0.6	-1.9	-1.9
	S.D.	0.92	0.91	1.31	0.78	0.73
	S.E.	0.29	0.29	0.42	0.25	0.23
	N	10	10	10	10	10
HCT (%)						
WEEK 12	MEAN	48.6	47.2	48.0	47.4	47.4
	% DIFFERENCE		-2.9	-1.2	-2.5	-2.5
	S.D.	3.55	3.57	4.90	2.76	2.44
	S.E.	1.12	1.13	1.55	0.87	0.77
	N	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
MCV (fL)						
WEEK 12	MEAN	53.3	51.8	52.5	52.0	52.7
	% DIFFERENCE		-2.8	-1.5	-2.4	-1.1
	S.D.	1.34	2.27	1.92	1.45	1.83
	S.E.	0.43	0.72	0.61	0.46	0.58
	N	10	10	10	10	10
MCH (pg)						
WEEK 12	MEAN	17.4	17.1	17.2	17.0	17.3
	% DIFFERENCE		-1.7	-1.1	-2.3	-0.6
	S.D.	0.49	0.62	0.37	0.54	0.53
	S.E.	0.16	0.20	0.12	0.17	0.17
	N	10	10	10	10	10
MCHC (g/dL)						
WEEK 12	MEAN	32.6	33.1	32.7	32.7	32.8
	% DIFFERENCE		1.5	0.3	0.3	0.6
	S.D.	0.99	0.90	0.77	0.65	0.49
	S.E.	0.31	0.29	0.24	0.21	0.15
	N	10	10	10	10	10
PLATELET (thous/uL)						
WEEK 12	MEAN	1074.	1097.	1131.	1089.	1055.
	% DIFFERENCE		2.1	5.3	1.4	-1.8
	S.D.	167.1	149.4	111.9	157.4	159.6
	S.E.	52.8	47.2	35.4	49.8	50.5
	N	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
PT (seconds)						
WEEK 12	MEAN	17.6	18.0	17.9	17.6	17.6
	% DIFFERENCE		2.3	1.7	0.0	0.0
	S.D.	0.55	0.41	0.79	0.49	0.59
	S.E.	0.18	0.13	0.25	0.15	0.19
	N	9	10	10	10	10
APTT (seconds)						
WEEK 12	MEAN	20.7	22.0	20.4	20.8	20.8
	% DIFFERENCE		6.3	-1.4	0.5	0.5
	S.D.	1.90	1.07	2.49	1.53	2.11
	S.E.	0.63	0.34	0.79	0.48	0.67
	N	9	10	10	10	10
RETIC (%)						
WEEK 12	MEAN	1.8	1.7	1.9	1.7	1.8
	% DIFFERENCE		-5.6	5.6	-5.6	0.0
	S.D.	0.19	0.36	0.35	0.46	0.43
	S.E.	0.06	0.11	0.11	0.14	0.14
	N	10	10	10	10	10
RETIC ABSOLUTE (thous/uL)						
WEEK 12	MEAN	164.9	151.3	175.5	150.7	163.3
	% DIFFERENCE		-8.2	6.4	-8.6	-1.0
	S.D.	17.70	32.91	37.53	41.19	41.05
	S.E.	5.60	10.41	11.87	13.03	12.98
	N	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
NEU (%)						
WEEK 12	MEAN	15.3	26.7c	22.8	21.5	19.7
	% DIFFERENCE		74.5	49.0	40.5	28.8
	S.D.	6.25	5.13	7.12	7.06	4.17
	S.E.	1.98	1.62	2.25	2.23	1.32
	N	10	10	10	10	10
LYMPH (%)						
WEEK 12	MEAN	80.2	68.7c	72.8	73.2	75.8
	% DIFFERENCE		-14.3	-9.2	-8.7	-5.5
	S.D.	6.31	5.35	7.61	8.19	3.83
	S.E.	2.00	1.69	2.41	2.59	1.21
	N	10	10	10	10	10
MONO (%)						
WEEK 12	MEAN	2.3	2.5	2.1	2.8	2.4
	% DIFFERENCE		8.7	-8.7	21.7	4.3
	S.D.	0.44	0.68	0.57	1.01	0.74
	S.E.	0.14	0.22	0.18	0.32	0.23
	N	10	10	10	10	10
EOS (%)						
WEEK 12	MEAN	0.9	0.9	0.9	0.9	0.8
	% DIFFERENCE		0.0	0.0	0.0	-11.1
	S.D.	0.44	0.41	0.38	0.36	0.42
	S.E.	0.14	0.13	0.12	0.11	0.13
	N	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
BASO (%)						
WEEK 12	MEAN	0.4	0.4	0.5	0.5	0.5
	% DIFFERENCE		0.0	25.0	25.0	25.0
	S.D.	0.12	0.09	0.25	0.16	0.09
	S.E.	0.04	0.03	0.08	0.05	0.03
	N	10	10	10	10	10
LUC (%)						
WEEK 12	MEAN	0.9	0.9	0.8	1.1	0.8
	% DIFFERENCE		0.0	-11.1	22.2	-11.1
	S.D.	0.36	0.34	0.27	0.49	0.42
	S.E.	0.11	0.11	0.08	0.15	0.13
	N	10	10	10	10	10
NEU ABSOLUTE (thous/uL)						
WEEK 12	MEAN	1.41	2.80 ^c	2.22	2.46	1.94
	% DIFFERENCE		98.6	57.4	74.5	37.6
	S.D.	0.664	0.765	0.690	1.154	0.378
	S.E.	0.210	0.242	0.218	0.365	0.120
	N	10	10	10	10	10
LYMPH ABSOLUTE (thous/uL)						
WEEK 12	MEAN	7.30	7.17	7.43	7.95	7.68
	% DIFFERENCE		-1.8	1.8	8.9	5.2
	S.D.	1.715	1.364	2.759	1.486	1.674
	S.E.	0.542	0.431	0.872	0.470	0.529
	N	10	10	10	10	10

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c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

MONO ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.21	0.26	0.21	0.33	0.25
	% DIFFERENCE		23.8	0.0	57.1	19.0
	S.D.	0.051	0.093	0.068	0.178	0.091
	S.E.	0.016	0.029	0.022	0.056	0.029
	N	10	10	10	10	10

EOS ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.09	0.09	0.08	0.11	0.08
	% DIFFERENCE		0.0	-11.1	22.2	-11.1
	S.D.	0.051	0.045	0.032	0.057	0.039
	S.E.	0.016	0.014	0.010	0.018	0.012
	N	10	10	10	10	10

BASO ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.04	0.05	0.05	0.05	0.05
	% DIFFERENCE		25.0	25.0	25.0	25.0
	S.D.	0.015	0.015	0.038	0.018	0.014
	S.E.	0.005	0.005	0.012	0.006	0.005
	N	10	10	10	10	10

LUC ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.08	0.09	0.09	0.12	0.08
	% DIFFERENCE		12.5	12.5	50.0	0.0
	S.D.	0.036	0.046	0.045	0.072	0.053
	S.E.	0.012	0.014	0.014	0.023	0.017
	N	10	10	10	10	10

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None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
RDW (%)						
WEEK 12	MEAN	11.8	11.9	11.7	11.9	12.0
	% DIFFERENCE		0.8	-0.8	0.8	1.7
	S.D.	0.61	0.31	0.33	0.43	0.30
	S.E.	0.19	0.10	0.10	0.14	0.10
	N	10	10	10	10	10
HDW (g/dL)						
WEEK 12	MEAN	2.12	2.18	2.12	2.20	2.19
	% DIFFERENCE		2.8	0.0	3.8	3.3
	S.D.	0.150	0.106	0.119	0.089	0.108
	S.E.	0.047	0.034	0.038	0.028	0.034
	N	10	10	10	10	10

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TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

WBC (thous/uL)						
WEEK 12	MEAN	8.19	7.79	10.11	9.43	9.07
	% DIFFERENCE		-4.9	23.4	15.1	10.7
	S.D.	2.223	1.597	2.640	2.842	1.650
	S.E.	0.741	0.505	0.835	0.899	0.550
	N	9	10	10	10	9
RBC (mil/uL)						
WEEK 12	MEAN	8.75	8.66	8.64	8.76	8.54
	% DIFFERENCE		-1.0	-1.3	0.1	-2.4
	S.D.	0.409	0.438	0.357	0.615	0.425
	S.E.	0.136	0.139	0.113	0.194	0.142
	N	9	10	10	10	9
HGB (g/dL)						
WEEK 12	MEAN	15.7	15.9	15.7	16.0	15.5
	% DIFFERENCE		1.3	0.0	1.9	-1.3
	S.D.	0.84	0.94	0.74	1.17	0.92
	S.E.	0.28	0.30	0.23	0.37	0.31
	N	9	10	10	10	9
HCT (%)						
WEEK 12	MEAN	47.2	47.3	47.1	48.4	46.3
	% DIFFERENCE		0.2	-0.2	2.5	-1.9
	S.D.	2.58	2.72	2.68	4.29	3.16
	S.E.	0.86	0.86	0.85	1.36	1.05
	N	9	10	10	10	9

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TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

MCV (fL)						
WEEK 12	MEAN	53.8	54.7	54.5	55.3	54.2
	% DIFFERENCE		1.7	1.3	2.8	0.7
	S.D.	1.68	1.83	1.48	2.21	2.22
	S.E.	0.56	0.58	0.47	0.70	0.74
	N	9	10	10	10	9
MCH (pg)						
WEEK 12	MEAN	17.9	18.3c	18.2	18.3	18.1
	% DIFFERENCE		2.2	1.7	2.2	1.1
	S.D.	0.47	0.42	0.36	0.64	0.59
	S.E.	0.16	0.13	0.11	0.20	0.20
	N	9	10	10	10	9
MCHC (g/dL)						
WEEK 12	MEAN	33.2	33.6	33.4	33.0	33.5
	% DIFFERENCE		1.2	0.6	-0.6	0.9
	S.D.	0.58	0.73	0.97	0.69	0.54
	S.E.	0.19	0.23	0.31	0.22	0.18
	N	9	10	10	10	9
PLATELET (thous/uL)						
WEEK 12	MEAN	1088.	1174.	1092.	1170.	1167.
	% DIFFERENCE		7.9	0.4	7.5	7.3
	S.D.	132.5	126.6	149.4	143.7	136.0
	S.E.	44.2	40.0	47.2	45.4	45.3
	N	9	10	10	10	9

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c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
PT (seconds)						
WEEK 12	MEAN	17.5	17.0	17.1	17.3	17.3
	% DIFFERENCE		-2.9	-2.3	-1.1	-1.1
	S.D.	0.48	0.58	0.34	0.56	0.92
	S.E.	0.16	0.18	0.11	0.18	0.31
	N	9	10	9	10	9
APTT (seconds)						
WEEK 12	MEAN	17.9	17.7	18.1	18.3	18.5
	% DIFFERENCE		-1.1	1.1	2.2	3.4
	S.D.	2.09	1.71	1.67	2.56	2.00
	S.E.	0.70	0.54	0.56	0.81	0.67
	N	9	10	9	10	9
RETIC (%)						
WEEK 12	MEAN	1.7	1.6	1.6	1.6	1.6
	% DIFFERENCE		-5.9	-5.9	-5.9	-5.9
	S.D.	0.29	0.29	0.36	0.51	0.38
	S.E.	0.10	0.09	0.11	0.16	0.13
	N	9	10	10	10	9
RETIC ABSOLUTE (thous/uL)						
WEEK 12	MEAN	149.5	135.8	140.6	141.8	139.0
	% DIFFERENCE		-9.2	-6.0	-5.2	-7.0
	S.D.	24.11	21.25	32.17	45.56	30.94
	S.E.	8.04	6.72	10.17	14.41	10.31
	N	9	10	10	10	9

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None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

ANALYSIS		FEMALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
NEU (%)	WEEK 12					
	MEAN	15.9	19.5	18.7	18.7	18.8
	% DIFFERENCE		22.6	17.6	17.6	18.2
	S.D.	4.38	4.41	4.29	6.52	8.06
	S.E.	1.46	1.39	1.36	2.06	2.69
	N	9	10	10	10	9
LYMPH (%)	WEEK 12					
	MEAN	79.3	75.5	76.9	77.4	76.7
	% DIFFERENCE		-4.8	-3.0	-2.4	-3.3
	S.D.	4.61	5.36	4.72	6.55	8.02
	S.E.	1.54	1.70	1.49	2.07	2.67
	N	9	10	10	10	9
MONO (%)	WEEK 12					
	MEAN	2.2	2.4	2.1	1.8	2.4
	% DIFFERENCE		9.1	-4.5	-18.2	9.1
	S.D.	1.00	0.96	0.51	0.37	0.63
	S.E.	0.33	0.30	0.16	0.12	0.21
	N	9	10	10	10	9
EOS (%)	WEEK 12					
	MEAN	1.2	1.3	1.1	0.8	0.9
	% DIFFERENCE		8.3	-8.3	-33.3	-25.0
	S.D.	0.38	0.41	0.77	0.26	0.24
	S.E.	0.13	0.13	0.24	0.08	0.08
	N	9	10	10	10	9

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None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
BASO (%)						
WEEK 12	MEAN	0.5	0.4	0.5	0.4	0.4
	% DIFFERENCE		-20.0	0.0	-20.0	-20.0
	S.D.	0.26	0.13	0.10	0.19	0.15
	S.E.	0.09	0.04	0.03	0.06	0.05
	N	9	10	10	10	9
LUC (%)						
WEEK 12	MEAN	0.9	0.9	0.8	0.9	0.8
	% DIFFERENCE		0.0	-11.1	0.0	-11.1
	S.D.	0.26	0.48	0.33	0.41	0.30
	S.E.	0.09	0.15	0.10	0.13	0.10
	N	9	10	10	10	9
NEU ABSOLUTE (thous/uL)						
WEEK 12	MEAN	1.31	1.50	1.92	1.67	1.67
	% DIFFERENCE		14.5	46.6	27.5	27.5
	S.D.	0.499	0.424	0.648	0.448	0.745
	S.E.	0.166	0.134	0.205	0.142	0.248
	N	9	10	10	10	9
LYMPH ABSOLUTE (thous/uL)						
WEEK 12	MEAN	6.50	5.91	7.75	7.39	7.00
	% DIFFERENCE		-9.1	19.2	13.7	7.7
	S.D.	1.824	1.409	2.071	2.625	1.633
	S.E.	0.608	0.446	0.655	0.830	0.544
	N	9	10	10	10	9

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None significantly different from control group

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

MONO ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.18	0.18	0.21	0.17	0.21
	% DIFFERENCE		0.0	16.7	-5.6	16.7
	S.D.	0.095	0.083	0.078	0.056	0.053
	S.E.	0.032	0.026	0.025	0.018	0.018
	N	9	10	10	10	9

EOS ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.09	0.10	0.10	0.07	0.08
	% DIFFERENCE		11.1	11.1	-22.2	-11.1
	S.D.	0.024	0.037	0.082	0.029	0.027
	S.E.	0.008	0.012	0.026	0.009	0.009
	N	9	10	10	10	9

BASO ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.04	0.04	0.05	0.04	0.04
	% DIFFERENCE		0.0	25.0	0.0	0.0
	S.D.	0.028	0.016	0.014	0.030	0.014
	S.E.	0.009	0.005	0.005	0.010	0.005
	N	9	10	10	10	9

LUC ABSOLUTE (thous/uL)						
WEEK 12	MEAN	0.08	0.06	0.08	0.09	0.07
	% DIFFERENCE		-25.0	0.0	12.5	-12.5
	S.D.	0.033	0.038	0.042	0.055	0.029
	S.E.	0.011	0.012	0.013	0.017	0.010
	N	9	10	10	10	9

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

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None significantly different from control group

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF HEMATOLOGY VALUES

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		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
RDW (%)						
WEEK 12	MEAN	11.2	10.8	11.0	11.0	11.1
	% DIFFERENCE		-3.6	-1.8	-1.8	-0.9
	S.D.	0.57	0.43	0.19	0.29	0.39
	S.E.	0.19	0.14	0.06	0.09	0.13
	N	9	10	10	10	9
HDW (g/dL)						
WEEK 12	MEAN	1.97	1.95	1.92	1.95	1.96
	% DIFFERENCE		-1.0	-2.5	-1.0	-0.5
	S.D.	0.108	0.106	0.077	0.112	0.125
	S.E.	0.036	0.033	0.024	0.035	0.042
	N	9	10	10	10	9

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None significantly different from control group

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TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
ALBUMIN (g/dL)						
WEEK 12	MEAN	3.9	3.8	4.0	3.8	3.9
	% DIFFERENCE		-2.6	2.6	-2.6	0.0
	S.D.	0.39	0.26	0.42	0.23	0.22
	S.E.	0.12	0.08	0.13	0.07	0.07
	N	10	10	10	10	10
TOTAL PROTEIN (g/dL)						
WEEK 12	MEAN	6.2	6.6	6.8	6.3	6.3
	% DIFFERENCE		6.5	9.7	1.6	1.6
	S.D.	0.44	0.54	0.70	0.31	0.40
	S.E.	0.15	0.17	0.23	0.10	0.13
	N	9	10	9	10	10
GLOBULIN (g/dL)						
WEEK 12	MEAN	2.3	2.8c	2.7	2.6	2.4
	% DIFFERENCE		21.7	17.4	13.0	4.3
	S.D.	0.27	0.44	0.40	0.22	0.28
	S.E.	0.09	0.14	0.13	0.07	0.09
	N	9	10	9	10	10
A/G RATIO						
WEEK 12	MEAN	1.66	1.39c	1.49	1.48	1.63a
	% DIFFERENCE		-16.3	-10.2	-10.8	-1.8
	S.D.	0.160	0.223	0.147	0.136	0.190
	S.E.	0.053	0.070	0.049	0.043	0.060
	N	9	10	9	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.

a = Significantly different from control group 2 at 0.05 using Dunnett's test

c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

TOTAL BILI (mg/dL)						
WEEK 12	MEAN	0.04	0.05	0.05	0.04	0.04
	% DIFFERENCE		25.0	25.0	0.0	0.0
	S.D.	0.025	0.017	0.016	0.016	0.020
	S.E.	0.008	0.005	0.005	0.005	0.006
	N	10	10	10	10	10
UREA NITROGEN (mg/dL)						
WEEK 12	MEAN	14.6	15.4	15.3	15.2	16.2
	% DIFFERENCE		5.5	4.8	4.1	11.0
	S.D.	1.48	1.43	0.90	2.52	0.88
	S.E.	0.49	0.45	0.30	0.80	0.28
	N	9	10	9	10	10
CREATININE (mg/dL)						
WEEK 12	MEAN	0.4	0.3	0.3	0.3	0.3
	% DIFFERENCE		-25.0	-25.0	-25.0	-25.0
	S.D.	0.49	0.05	0.07	0.06	0.05
	S.E.	0.16	0.02	0.02	0.02	0.02
	N	10	10	9	10	10
ALP (U/L)						
WEEK 12	MEAN	83.	82.	96.	86.	86.
	% DIFFERENCE		-1.2	15.7	3.6	3.6
	S.D.	14.5	12.5	34.9	11.7	11.5
	S.E.	4.6	4.0	11.0	3.7	3.6
	N	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
ALT (U/L)						
WEEK 12	MEAN	51.	54.	54.	56.	54.
	% DIFFERENCE		5.9	5.9	9.8	5.9
	S.D.	9.0	9.3	10.1	12.8	6.4
	S.E.	2.8	2.9	3.2	4.1	2.0
	N	10	10	10	10	10
AST (U/L)						
WEEK 12	MEAN	99.	114. c	109.	130.	111.
	% DIFFERENCE		15.2	10.1	31.3	12.1
	S.D.	8.6	20.6	18.2	33.7	15.5
	S.E.	2.7	6.5	5.7	10.7	4.9
	N	10	10	10	10	10
GGT (U/L)						
WEEK 12	MEAN	0.1	0.2	0.2	0.2	0.1
	% DIFFERENCE		100.0	100.0	100.0	0.0
	S.D.	0.00	0.18	0.13	0.16	0.00
	S.E.	0.00	0.06	0.04	0.05	0.00
	N	10	10	10	10	10
GLUCOSE (mg/dL)						
WEEK 12	MEAN	133.	143.	118.	126.	121.
	% DIFFERENCE		7.5	-11.3	-5.3	-9.0
	S.D.	16.2	33.9	24.0	22.0	21.8
	S.E.	5.4	10.7	8.0	7.0	6.9
	N	9	10	9	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
CHOLESTEROL (mg/dL)						
WEEK 12	MEAN	44.	46.	41.	45.	43.
	% DIFFERENCE		4.5	-6.8	2.3	-2.3
	S.D.	8.8	10.3	10.9	10.4	7.0
	S.E.	2.9	3.3	3.6	3.3	2.2
	N	9	10	9	10	10
CALCIUM (mg/dL)						
WEEK 12	MEAN	11.6	11.8	11.8	11.6	11.8
	% DIFFERENCE		1.7	1.7	0.0	1.7
	S.D.	1.47	1.11	1.69	0.71	0.70
	S.E.	0.46	0.35	0.54	0.22	0.22
	N	10	10	10	10	10
CHLORIDE (mEq/L)						
WEEK 12	MEAN	104.	103.	104.	103.	104.
	% DIFFERENCE		-1.0	0.0	-1.0	0.0
	S.D.	1.3	1.9	2.5	1.8	1.0
	S.E.	0.4	0.6	0.8	0.6	0.3
	N	10	10	10	10	10
PHOSPHORUS (mg/dL)						
WEEK 12	MEAN	9.6	8.8	9.8	8.7	9.9
	% DIFFERENCE		-8.3	2.1	-9.4	3.1
	S.D.	2.49	2.03	3.81	1.31	1.81
	S.E.	0.79	0.64	1.20	0.41	0.57
	N	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		MALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
POTASSIUM (mEq/L)						
WEEK 12	MEAN	6.04	5.41	6.02	5.32	6.00
	% DIFFERENCE		-10.4	-0.3	-11.9	-0.7
	S.D.	1.776	1.772	2.015	1.045	1.066
	S.E.	0.562	0.560	0.637	0.330	0.337
	N	10	10	10	10	10
SODIUM (mEq/L)						
WEEK 12	MEAN	149.	147.	150.	148.	150.
	% DIFFERENCE		-1.3	0.7	-0.7	0.7
	S.D.	4.9	3.5	5.3	2.4	2.3
	S.E.	1.6	1.1	1.7	0.7	0.7
	N	10	10	10	10	10
TRIGLYCERIDE (mg/dL)						
WEEK 12	MEAN	23.	14.	15.	34.	14.
	% DIFFERENCE		-39.1	-34.8	47.8	-39.1
	S.D.	18.8	4.6	3.9	40.9	6.1
	S.E.	5.9	1.4	1.2	12.9	1.9
	N	10	10	10	10	10
SDH (U/L)						
WEEK 12	MEAN	14.	11.	13.	16.	12.
	% DIFFERENCE		-21.4	-7.1	14.3	-14.3
	S.D.	7.4	3.1	7.4	7.5	3.8
	S.E.	2.5	1.0	2.3	2.4	1.2
	N	9	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
ALBUMIN (g/dL)						
WEEK 12	MEAN	5.0	4.6	4.6	4.6	4.8
	% DIFFERENCE		-8.0	-8.0	-8.0	-4.0
	S.D.	0.47	0.40	0.35	0.48	0.29
	S.E.	0.15	0.13	0.11	0.15	0.09
	N	10	10	10	10	10
TOTAL PROTEIN (g/dL)						
WEEK 12	MEAN	7.6	7.3	7.3	7.3	7.3
	% DIFFERENCE		-3.9	-3.9	-3.9	-3.9
	S.D.	0.66	0.46	0.45	0.91	0.50
	S.E.	0.21	0.14	0.14	0.29	0.17
	N	10	10	10	10	9
GLOBULIN (g/dL)						
WEEK 12	MEAN	2.6	2.7	2.7	2.7	2.6
	% DIFFERENCE		3.8	3.8	3.8	0.0
	S.D.	0.34	0.30	0.30	0.56	0.24
	S.E.	0.11	0.09	0.09	0.18	0.08
	N	10	10	10	10	9
A/G RATIO						
WEEK 12	MEAN	1.94	1.71	1.74	1.75	1.87
	% DIFFERENCE		-11.9	-10.3	-9.8	-3.6
	S.D.	0.268	0.242	0.234	0.293	0.119
	S.E.	0.085	0.077	0.074	0.093	0.040
	N	10	10	10	10	9

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

TOTAL BILI (mg/dL)						
WEEK 12	MEAN	0.13	0.09	0.08	0.08	0.11
	% DIFFERENCE		-30.8	-38.5	-38.5	-15.4
	S.D.	0.070	0.016	0.026	0.022	0.063
	S.E.	0.022	0.005	0.008	0.007	0.020
	N	10	10	10	10	10
UREA NITROGEN (mg/dL)						
WEEK 12	MEAN	15.6	14.0	14.8	14.8	14.9
	% DIFFERENCE		-10.3	-5.1	-5.1	-4.5
	S.D.	1.96	1.68	0.81	1.96	1.38
	S.E.	0.62	0.53	0.26	0.62	0.46
	N	10	10	10	10	9
CREATININE (mg/dL)						
WEEK 12	MEAN	0.3	0.3	0.3	0.4	0.3
	% DIFFERENCE		0.0	0.0	33.3	0.0
	S.D.	0.05	0.08	0.06	0.33	0.06
	S.E.	0.01	0.03	0.02	0.10	0.02
	N	10	10	10	10	9
ALP (U/L)						
WEEK 12	MEAN	55.	49.	62.	50.	54.
	% DIFFERENCE		-10.9	12.7	-9.1	-1.8
	S.D.	11.2	15.1	18.7	15.5	10.7
	S.E.	3.6	4.8	5.9	4.9	3.4
	N	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

ALT (U/L)						
WEEK 12	MEAN	115.	56.	63.	61.	53.
	% DIFFERENCE		-51.3	-45.2	-47.0	-53.9
	S.D.	134.6	16.8	23.9	19.7	15.2
	S.E.	42.6	5.3	7.6	6.2	4.8
	N	10	10	10	10	10
AST (U/L)						
WEEK 12	MEAN	221.	104.	107.	123.	103.
	% DIFFERENCE		-52.9	-51.6	-44.3	-53.4
	S.D.	270.4	22.6	28.6	25.6	18.4
	S.E.	85.5	7.2	9.0	8.1	5.8
	N	10	10	10	10	10
GGT (U/L)						
WEEK 12	MEAN	0.9	0.4	0.3	0.5	0.3
	% DIFFERENCE		-55.6	-66.7	-44.4	-66.7
	S.D.	1.06	0.31	0.28	0.38	0.31
	S.E.	0.34	0.10	0.09	0.12	0.10
	N	10	10	10	10	10
GLUCOSE (mg/dL)						
WEEK 12	MEAN	123.	116.	117.	108.	109.
	% DIFFERENCE		-5.7	-4.9	-12.2	-11.4
	S.D.	23.1	16.3	19.3	10.0	12.4
	S.E.	7.3	5.2	6.1	3.2	4.1
	N	10	10	10	10	9

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

PAGE 9

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

CHOLESTEROL (mg/dL)						
WEEK 12	MEAN	78.	78.	69.	67.	61.
	% DIFFERENCE		0.0	-11.5	-14.1	-21.8
	S.D.	20.5	25.9	18.9	21.2	14.3
	S.E.	6.5	8.2	6.0	6.7	4.8
	N	10	10	10	10	9
CALCIUM (mg/dL)						
WEEK 12	MEAN	12.3	12.3	12.1	12.4	12.3
	% DIFFERENCE		0.0	-1.6	0.8	0.0
	S.D.	0.69	0.62	0.76	1.27	0.64
	S.E.	0.22	0.20	0.24	0.40	0.20
	N	10	10	10	10	10
CHLORIDE (mEq/L)						
WEEK 12	MEAN	103.	103.	103.	104.	103.
	% DIFFERENCE		0.0	0.0	1.0	0.0
	S.D.	2.2	1.5	1.4	1.3	0.7
	S.E.	0.7	0.5	0.4	0.4	0.2
	N	10	10	10	10	10
PHOSPHORUS (mg/dL)						
WEEK 12	MEAN	8.7	9.0	8.8	10.1	8.7
	% DIFFERENCE		3.4	1.1	16.1	0.0
	S.D.	1.19	1.53	1.60	2.32	1.14
	S.E.	0.38	0.48	0.51	0.73	0.36
	N	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF SERUM CHEMISTRY VALUES

		FEMALES				
ANALYSIS	GROUP:	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

POTASSIUM (mEq/L)						
WEEK 12	MEAN	5.26	5.54	5.54	5.88	5.16
	% DIFFERENCE		5.3	5.3	11.8	-1.9
	S.D.	1.043	1.206	2.078	1.095	0.857
	S.E.	0.330	0.381	0.657	0.346	0.271
	N	10	10	10	10	10

SODIUM (mEq/L)						
WEEK 12	MEAN	148.	147.	147.	149.	148.
	% DIFFERENCE		-0.7	-0.7	0.7	0.0
	S.D.	1.9	2.2	1.4	4.9	3.0
	S.E.	0.6	0.7	0.5	1.5	1.0
	N	10	10	10	10	10

TRIGLYCERIDE (mg/dL)						
WEEK 12	MEAN	35.	24.	38.	94.	24.
	% DIFFERENCE		-31.4	8.6	168.6	-31.4
	S.D.	20.2	8.9	38.5	223.8	6.1
	S.E.	6.4	2.8	12.2	70.8	1.9
	N	10	10	10	10	10

SDH (U/L)						
WEEK 12	MEAN	27.	11.	14.	15.	13.
	% DIFFERENCE		-59.3	-48.1	-44.4	-51.9
	S.D.	28.5	3.8	4.6	6.7	5.6
	S.E.	9.0	1.2	1.5	2.1	1.9
	N	10	10	10	10	9

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER, mEq/L = MILLIEQUIVALENTS/LITER

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF OPHTHALMIC EXAMINATION FINDINGS

PAGE 1

GROUP:	M A L E					F E M A L E				
	1	2	3	4	5	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED EXAM 1(WEEK -1)	10	10	10	10	10	10	10	10	10	10
-NO OCULAR LESIONS - BILATERAL	10	9	10	8	9	10	10	10	10	10
-CORNEAL CRYSTALS - BILATERAL	0	1	0	2	1	0	0	0	0	0
1- UNTREATED	2- 0 MG/KG/DAY					3- 100 MG/KG/DAY				
	4- 300 MG/KG/DAY					5- 600 MG/KG/DAY				

POPSiv4.03
08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF OPHTHALMIC EXAMINATION FINDINGS

PAGE 1

GROUP:	M A L E					F E M A L E				
	1	2	3	4	5	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED EXAM 2(WEEK 12)	10	10	10	10	10	10	10	10	10	10
-NO OCULAR LESIONS - BILATERAL	8	8	8	6	9	10	9	9	9	9
-CORNEAL CRYSTALS - BILATERAL	2	2	2	4	1	0	0	1	1	0
-CATARACT - BILATERAL	0	0	0	0	0	0	1	0	1	0
-BLEPHARITIS - BILATERAL	0	0	0	0	0	0	0	0	0	1

1- UNTREATED 2- 0 MG/KG/DAY 3- 100 MG/KG/DAY 4- 300 MG/KG/DAY 5- 600 MG/KG/DAY

POPSiv4.03
08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MACROSCOPIC FINDINGS

PAGE 1

SCHEDULED NECROPSY					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
EPIDIDYIMIDES					
-SMALL	0	0	0	0	1
-ABSENT	0	0	0	0	1
ILEUM					
-DIVERTICULUM	0	0	0	1	0
KIDNEYS					
-AREA(S), DEPRESSED	0	2	0	1	1
LIVER					
-AREA(S), YELLOW	0	0	1	0	0
LN, MANDIBULAR					
-ENLARGED	0	1	0	0	0
SKIN					
-HAIR LOSS	0	0	0	0	1
STOMACH					
-CONTENTS, YELLOW	0	0	0	1	0
TESTES					
-SMALL	0	0	0	0	1
THYMUS					
-AREA(S), DARK RED	1	1	1	0	1
NO SIGNIFICANT CHANGES OBSERVED - ALL EXAMINED TISSUES	9	7	8	7	7
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MACROSCOPIC FINDINGS

PAGE 2

SCHEDULED NECROPSY

GROUP:	F E M A L E				
	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
DIAPHRAGM -HERNIA	0	0	0	1	0
KIDNEYS -AREA(S), DEPRESSED	1	0	0	1	0
OVARIES -CYST(S)	1	0	0	0	0
PITUITARY -ENLARGED	0	1	0	0	0
THYMUS -AREA(S), DARK RED	3	0	0	1	1
THYROID GLANDS -DISCOLORATION, DARK RED	0	0	0	0	1
UTERUS -CONTENTS, CLEAR FLUID	2	0	2	2	2
NO SIGNIFICANT CHANGES OBSERVED - ALL EXAMINED TISSUES	4	9	8	7	7

1- UNTREATED 2- 0 MG/KG/DAY 3- 100 MG/KG/DAY 4- 300 MG/KG/DAY 5- 600 MG/KG/DAY

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08/17/2011

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
FINAL BODY WT (G)					
MEAN	475.	467.	464.	485.	456.
% DIFFERENCE		-1.7	-2.3	2.1	-4.0
S.D.	39.4	30.8	36.6	20.8	30.4
S.E.	12.4	9.7	11.6	6.6	9.6
N	10	10	10	10	10
ADRENAL GLANDS (G)					
MEAN	0.0620	0.0651	0.0660	0.0611	0.0608
% DIFFERENCE		5.0	6.5	-1.5	-1.9
S.D.	0.00602	0.01067	0.00722	0.00543	0.00996
S.E.	0.00190	0.00337	0.00228	0.00172	0.00315
N	10	10	10	10	10
ADRENAL GLANDS (G/100 G FINAL BODY WEIGHT)					
MEAN	0.013	0.014	0.014	0.013	0.013
% DIFFERENCE		7.7	7.7	0.0	0.0
S.D.	0.0018	0.0025	0.0019	0.0015	0.0023
S.E.	0.0006	0.0008	0.0006	0.0005	0.0007
N	10	10	10	10	10
ADRENAL GLANDS (G/100 G BRAIN)					
MEAN	2.921	3.109	3.132	2.879	2.934
% DIFFERENCE		6.4	7.2	-1.4	0.4
S.D.	0.2859	0.5303	0.3566	0.3076	0.4847
S.E.	0.0904	0.1677	0.1128	0.0973	0.1533
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:		MALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
BRAIN (G)						
MEAN		2.12	2.10	2.11	2.13	2.07
% DIFFERENCE			-0.9	-0.5	0.5	-2.4
S.D.		0.072	0.096	0.072	0.071	0.063
S.E.		0.023	0.031	0.023	0.023	0.020
N		10	10	10	10	10
BRAIN (G/100 G FINAL BODY WEIGHT)						
MEAN		0.450	0.450	0.456	0.439	0.456
% DIFFERENCE			0.0	1.3	-2.4	1.3
S.D.		0.0370	0.0216	0.0273	0.0242	0.0293
S.E.		0.0117	0.0068	0.0086	0.0077	0.0093
N		10	10	10	10	10
EPIDIDYIMIDES (G)						
MEAN		1.39	1.37	1.36	1.31	1.27
% DIFFERENCE			-1.4	-2.2	-5.8	-8.6
S.D.		0.107	0.120	0.101	0.073	0.238
S.E.		0.034	0.038	0.032	0.023	0.075
N		10	10	10	10	10
EPIDIDYIMIDES (G/100 G FINAL BODY WEIGHT)						
MEAN		0.295	0.294	0.294	0.270	0.279
% DIFFERENCE			-0.3	-0.3	-8.5	-5.4
S.D.		0.0358	0.0300	0.0342	0.0214	0.0544
S.E.		0.0113	0.0095	0.0108	0.0068	0.0172
N		10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
EPIDIDYIMIDES (G/100 G BRAIN)					
MEAN	65.501	65.331	64.482	61.536	61.274
% DIFFERENCE		-0.3	-1.6	-6.1	-6.5
S.D.	4.1917	4.8698	5.6210	3.9629	11.5682
S.E.	1.3255	1.5400	1.7775	1.2532	3.6582
N	10	10	10	10	10
HEART (G)					
MEAN	1.54	1.58	1.56	1.62	1.52
% DIFFERENCE		2.6	1.3	5.2	-1.3
S.D.	0.172	0.197	0.130	0.191	0.080
S.E.	0.054	0.062	0.041	0.060	0.025
N	10	10	10	10	10
HEART (G/100 G FINAL BODY WEIGHT)					
MEAN	0.325	0.338	0.337	0.334	0.334
% DIFFERENCE		4.0	3.7	2.8	2.8
S.D.	0.0400	0.0336	0.0221	0.0339	0.0205
S.E.	0.0126	0.0106	0.0070	0.0107	0.0065
N	10	10	10	10	10
HEART (G/100 G BRAIN)					
MEAN	72.452	75.109	74.185	76.103	73.436
% DIFFERENCE		3.7	2.4	5.0	1.4
S.D.	7.8554	7.9948	6.0415	7.8947	4.7596
S.E.	2.4841	2.5282	1.9105	2.4965	1.5051
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

KIDNEYS (G)						
MEAN		3.36	3.23	3.23	3.29	3.32
% DIFFERENCE			-3.9	-3.9	-2.1	-1.2
S.D.		0.313	0.222	0.299	0.150	0.285
S.E.		0.099	0.070	0.094	0.047	0.090
N		10	10	10	10	10
KIDNEYS (G/100 G FINAL BODY WEIGHT)						
MEAN		0.708	0.694	0.696	0.680	0.727
% DIFFERENCE			-2.0	-1.7	-4.0	2.7
S.D.		0.0483	0.0337	0.0517	0.0361	0.0306
S.E.		0.0153	0.0107	0.0164	0.0114	0.0097
N		10	10	10	10	10
KIDNEYS (G/100 G BRAIN)						
MEAN		158.018	154.268	153.106	155.010	160.192
% DIFFERENCE			-2.4	-3.1	-1.9	1.4
S.D.		13.8494	8.7776	13.4031	9.8443	12.9577
S.E.		4.3796	2.7757	4.2384	3.1130	4.0976
N		10	10	10	10	10
LIVER (G)						
MEAN		12.72	12.45	12.30	12.94	12.58
% DIFFERENCE			-2.1	-3.3	1.7	-1.1
S.D.		1.538	1.384	1.072	1.284	1.059
S.E.		0.486	0.438	0.339	0.406	0.335
N		10	10	10	10	10

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None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
LIVER (G/100 G FINAL BODY WEIGHT)					
MEAN	2.679	2.664	2.652	2.668	2.760
% DIFFERENCE		-0.6	-1.0	-0.4	3.0
S.D.	0.2256	0.1852	0.1611	0.2040	0.1780
S.E.	0.0713	0.0586	0.0509	0.0645	0.0563
N	10	10	10	10	10
LIVER (G/100 G BRAIN)					
MEAN	599.210	593.721	583.249	609.387	607.890
% DIFFERENCE		-0.9	-2.7	1.7	1.4
S.D.	71.6497	59.2417	47.4887	64.8976	56.0695
S.E.	22.6576	18.7339	15.0172	20.5224	17.7307
N	10	10	10	10	10
PITUITARY (G)					
MEAN	0.0139	0.0149	0.0150	0.0148	0.0142
% DIFFERENCE		7.2	7.9	6.5	2.2
S.D.	0.00124	0.00205	0.00216	0.00061	0.00229
S.E.	0.00039	0.00065	0.00068	0.00019	0.00073
N	10	10	10	10	10
PITUITARY (G/100 G FINAL BODY WEIGHT)					
MEAN	0.003	0.003	0.003	0.003	0.003
% DIFFERENCE		0.0	0.0	0.0	0.0
S.D.	0.0003	0.0004	0.0005	0.0002	0.0004
S.E.	0.0001	0.0001	0.0002	0.0001	0.0001
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
PITUITARY (G/100 G BRAIN)					
MEAN	0.654	0.711	0.711	0.697	0.687
% DIFFERENCE		8.7	8.7	6.6	5.0
S.D.	0.0564	0.0893	0.1163	0.0442	0.1117
S.E.	0.0178	0.0282	0.0368	0.0140	0.0353
N	10	10	10	10	10
PROSTATE (G)					
MEAN	1.09	1.05	0.94	1.03	0.97
% DIFFERENCE		-3.7	-13.8	-5.5	-11.0
S.D.	0.226	0.132	0.155	0.193	0.183
S.E.	0.071	0.042	0.049	0.061	0.058
N	10	10	10	10	10
PROSTATE (G/100 G FINAL BODY WEIGHT)					
MEAN	0.230	0.227	0.203	0.212	0.214
% DIFFERENCE		-1.3	-11.7	-7.8	-7.0
S.D.	0.0492	0.0361	0.0355	0.0395	0.0421
S.E.	0.0156	0.0114	0.0112	0.0125	0.0133
N	10	10	10	10	10
PROSTATE (G/100 G BRAIN)					
MEAN	51.335	50.374	44.619	48.432	47.012
% DIFFERENCE		-1.9	-13.1	-5.7	-8.4
S.D.	10.3195	7.8929	7.5675	9.5376	9.3788
S.E.	3.2633	2.4960	2.3930	3.0160	2.9658
N	10	10	10	10	10

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None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

		MALES				
GROUP:		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

SPLEEN (G)						
MEAN		0.81	0.80	0.80	0.79	0.76
% DIFFERENCE			-1.2	-1.2	-2.5	-6.2
S.D.		0.076	0.053	0.128	0.058	0.155
S.E.		0.024	0.017	0.041	0.018	0.049
N		10	10	10	10	10
SPLEEN (G/100 G FINAL BODY WEIGHT)						
MEAN		0.172	0.172	0.171	0.163	0.165
% DIFFERENCE			0.0	-0.6	-5.2	-4.1
S.D.		0.0199	0.0131	0.0234	0.0148	0.0270
S.E.		0.0063	0.0041	0.0074	0.0047	0.0085
N		10	10	10	10	10
SPLEEN (G/100 G BRAIN)						
MEAN		38.343	38.245	37.731	37.064	36.435
% DIFFERENCE			-0.3	-1.6	-3.3	-5.0
S.D.		3.3571	3.4020	6.2251	3.0768	7.0704
S.E.		1.0616	1.0758	1.9686	0.9730	2.2358
N		10	10	10	10	10
TESTES (G)						
MEAN		3.59	3.54	3.31	3.65	3.29
% DIFFERENCE			-1.4	-7.8	1.7	-8.4
S.D.		0.219	0.286	0.210	0.206	0.607
S.E.		0.069	0.090	0.067	0.065	0.192
N		10	10	10	10	10

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None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
TESTES (G/100 G FINAL BODY WEIGHT)					
MEAN	0.761	0.761	0.716	0.754	0.723
% DIFFERENCE		0.0	-5.9	-0.9	-5.0
S.D.	0.0814	0.0634	0.0521	0.0658	0.1371
S.E.	0.0258	0.0201	0.0165	0.0208	0.0434
N	10	10	10	10	10
TESTES (G/100 G BRAIN)					
MEAN	169.251	168.971	157.091	171.615	159.099
% DIFFERENCE		-0.2	-7.2	1.4	-6.0
S.D.	11.5586	10.4837	9.6198	11.1227	29.6112
S.E.	3.6551	3.3152	3.0420	3.5173	9.3639
N	10	10	10	10	10
THYMUS (G)					
MEAN	0.2813	0.2658	0.2200	0.2346	0.2307
% DIFFERENCE		-5.5	-21.8	-16.6	-18.0
S.D.	0.06865	0.07914	0.06218	0.06117	0.06028
S.E.	0.02171	0.02503	0.01966	0.01934	0.01906
N	10	10	10	10	10
THYMUS (G/100 G FINAL BODY WEIGHT)					
MEAN	0.059	0.056	0.047	0.048	0.050
% DIFFERENCE		-5.1	-20.3	-18.6	-15.3
S.D.	0.0127	0.0146	0.0126	0.0120	0.0106
S.E.	0.0040	0.0046	0.0040	0.0038	0.0033
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	MALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
THYMUS (G/100 G BRAIN)					
MEAN	13.239	12.633	10.447	11.064	11.115
% DIFFERENCE		-4.6	-21.1	-16.4	-16.0
S.D.	3.1508	3.5783	2.9692	3.0061	2.7716
S.E.	0.9964	1.1315	0.9389	0.9506	0.8765
N	10	10	10	10	10
THYROID/PARATHY (G)					
MEAN	0.0181	0.0176	0.0177	0.0195	0.0199
% DIFFERENCE		-2.8	-2.2	7.7	9.9
S.D.	0.00299	0.00465	0.00301	0.00495	0.00556
S.E.	0.00095	0.00147	0.00095	0.00157	0.00176
N	10	10	10	10	10
THYROID/PARATHY (G/100 G FINAL BODY WEIGHT)					
MEAN	0.004	0.004	0.004	0.004	0.005
% DIFFERENCE		0.0	0.0	0.0	25.0
S.D.	0.0007	0.0009	0.0006	0.0010	0.0014
S.E.	0.0002	0.0003	0.0002	0.0003	0.0005
N	10	10	10	10	10
THYROID/PARATHY (G/100 G BRAIN)					
MEAN	0.850	0.837	0.841	0.915	0.960
% DIFFERENCE		-1.5	-1.1	7.6	12.9
S.D.	0.1337	0.2103	0.1414	0.2244	0.2647
S.E.	0.0423	0.0665	0.0447	0.0710	0.0837
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	FEMALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
FINAL BODY WT (G)					
MEAN	281.	265.	268.	265.	271.
% DIFFERENCE		-5.7	-4.6	-5.7	-3.6
S.D.	18.1	21.7	21.9	16.9	23.5
S.E.	5.7	6.8	6.9	5.3	7.4
N	10	10	10	10	10
ADRENAL GLANDS (G)					
MEAN	0.0655	0.0701	0.0674	0.0707	0.0679
% DIFFERENCE		7.0	2.9	7.9	3.7
S.D.	0.01106	0.00994	0.00922	0.00660	0.00868
S.E.	0.00350	0.00314	0.00291	0.00209	0.00274
N	10	10	10	10	10
ADRENAL GLANDS (G/100 G FINAL BODY WEIGHT)					
MEAN	0.023	0.027	0.025	0.027	0.025
% DIFFERENCE		17.4	8.7	17.4	8.7
S.D.	0.0045	0.0043	0.0033	0.0035	0.0040
S.E.	0.0014	0.0014	0.0011	0.0011	0.0013
N	10	10	10	10	10
ADRENAL GLANDS (G/100 G BRAIN)					
MEAN	3.419	3.772	3.471	3.680	3.565
% DIFFERENCE		10.3	1.5	7.6	4.3
S.D.	0.5187	0.6125	0.4542	0.3789	0.4807
S.E.	0.1640	0.1937	0.1436	0.1198	0.1520
N	10	10	10	10	10

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None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
BRAIN (G)						
MEAN		1.92	1.87	1.94	1.92	1.91
% DIFFERENCE			-2.6	1.0	0.0	-0.5
S.D.		0.107	0.105	0.052	0.069	0.152
S.E.		0.034	0.033	0.016	0.022	0.048
N		10	10	10	10	10
BRAIN (G/100 G FINAL BODY WEIGHT)						
MEAN		0.683	0.707	0.729	0.729	0.709
% DIFFERENCE			3.5	6.7	6.7	3.8
S.D.		0.0599	0.0566	0.0572	0.0513	0.0658
S.E.		0.0189	0.0179	0.0181	0.0162	0.0208
N		10	10	10	10	10
HEART (G)						
MEAN		1.07	1.05	1.05	1.07	1.12
% DIFFERENCE			-1.9	-1.9	0.0	4.7
S.D.		0.102	0.081	0.105	0.057	0.123
S.E.		0.032	0.026	0.033	0.018	0.039
N		10	10	10	10	10
HEART (G/100 G FINAL BODY WEIGHT)						
MEAN		0.380	0.396	0.392	0.405	0.413
% DIFFERENCE			4.2	3.2	6.6	8.7
S.D.		0.0391	0.0446	0.0299	0.0245	0.0296
S.E.		0.0124	0.0141	0.0094	0.0077	0.0094
N		10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	FEMALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
HEART (G/100 G BRAIN)					
MEAN	55.582	56.254	54.012	55.639	58.636
% DIFFERENCE		1.2	-2.8	0.1	5.5
S.D.	3.8616	6.3829	5.4444	2.7790	6.5506
S.E.	1.2211	2.0184	1.7217	0.8788	2.0715
N	10	10	10	10	10
KIDNEYS (G)					
MEAN	1.91	1.85	1.90	1.91	1.91
% DIFFERENCE		-3.1	-0.5	0.0	0.0
S.D.	0.116	0.190	0.264	0.077	0.259
S.E.	0.037	0.060	0.084	0.024	0.082
N	10	10	10	10	10
KIDNEYS (G/100 G FINAL BODY WEIGHT)					
MEAN	0.681	0.699	0.709	0.724	0.703
% DIFFERENCE		2.6	4.1	6.3	3.2
S.D.	0.0612	0.0570	0.0656	0.0525	0.0630
S.E.	0.0193	0.0180	0.0207	0.0166	0.0199
N	10	10	10	10	10
KIDNEYS (G/100 G BRAIN)					
MEAN	99.685	99.148	97.891	99.551	99.712
% DIFFERENCE		-0.5	-1.8	-0.1	0.0
S.D.	5.2312	9.1962	12.8213	5.6557	11.0025
S.E.	1.6542	2.9081	4.0544	1.7885	3.4793
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
LIVER (G)						
MEAN		7.52	8.02	7.67	8.21	8.29
% DIFFERENCE			6.6	2.0	9.2	10.2
S.D.		0.380	0.747	0.995	0.794	0.848
S.E.		0.120	0.236	0.315	0.251	0.268
N		10	10	10	10	10
LIVER (G/100 G FINAL BODY WEIGHT)						
MEAN		2.679	3.030 ^c	2.858	3.101	3.058
% DIFFERENCE			13.1	6.7	15.8	14.1
S.D.		0.1734	0.1984	0.2152	0.2484	0.1463
S.E.		0.0548	0.0627	0.0680	0.0785	0.0463
N		10	10	10	10	10
LIVER (G/100 G BRAIN)						
MEAN		393.498	431.287 ^c	394.927	426.909	434.620
% DIFFERENCE			9.6	0.4	8.5	10.5
S.D.		26.8148	47.8526	47.1844	38.2089	42.9108
S.E.		8.4796	15.1323	14.9210	12.0827	13.5696
N		10	10	10	10	10
OVARIES/OVIDUCTS (G)						
MEAN		0.1204	0.1119	0.1337	0.1266	0.1263
% DIFFERENCE			-7.1	11.0	5.1	4.9
S.D.		0.02539	0.02336	0.02513	0.02029	0.01174
S.E.		0.00803	0.00739	0.00795	0.00642	0.00371
N		10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
c = Significantly different from control group 1 at 0.05 using Student's t-Test

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	FEMALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

OVARIES/OVIDUCTS (G/100 G FINAL BODY WEIGHT)					
MEAN	0.043	0.042	0.050	0.048	0.047
% DIFFERENCE		-2.3	16.3	11.6	9.3
S.D.	0.0085	0.0092	0.0075	0.0061	0.0057
S.E.	0.0027	0.0029	0.0024	0.0019	0.0018
N	10	10	10	10	10
OVARIES/OVIDUCTS (G/100 G BRAIN)					
MEAN	6.283	5.957	6.890	6.566	6.632
% DIFFERENCE		-5.2	9.7	4.5	5.6
S.D.	1.2355	1.0197	1.2835	0.9589	0.7049
S.E.	0.3907	0.3225	0.4059	0.3032	0.2229
N	10	10	10	10	10
PITUITARY (G)					
MEAN	0.0220	0.0210	0.0206	0.0199	0.0197
% DIFFERENCE		-4.5	-6.4	-9.5	-10.5
S.D.	0.00326	0.00361	0.00350	0.00331	0.00238
S.E.	0.00103	0.00114	0.00111	0.00105	0.00075
N	10	10	10	10	10
PITUITARY (G/100 G FINAL BODY WEIGHT)					
MEAN	0.008	0.008	0.008	0.008	0.007
% DIFFERENCE		0.0	0.0	0.0	-12.5
S.D.	0.0011	0.0017	0.0011	0.0015	0.0010
S.E.	0.0004	0.0005	0.0004	0.0005	0.0003
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:	FEMALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
PITUITARY (G/100 G BRAIN)					
MEAN	1.147	1.135	1.061	1.033	1.034
% DIFFERENCE		-1.0	-7.5	-9.9	-9.9
S.D.	0.1628	0.2572	0.1709	0.1687	0.1153
S.E.	0.0515	0.0813	0.0541	0.0534	0.0365
N	10	10	10	10	10
SPLEEN (G)					
MEAN	0.56	0.54	0.54	0.55	0.56
% DIFFERENCE		-3.6	-3.6	-1.8	0.0
S.D.	0.096	0.083	0.079	0.066	0.123
S.E.	0.030	0.026	0.025	0.021	0.039
N	10	10	10	10	10
SPLEEN (G/100 G FINAL BODY WEIGHT)					
MEAN	0.199	0.202	0.200	0.208	0.208
% DIFFERENCE		1.5	0.5	4.5	4.5
S.D.	0.0305	0.0282	0.0198	0.0205	0.0423
S.E.	0.0097	0.0089	0.0063	0.0065	0.0134
N	10	10	10	10	10
SPLEEN (G/100 G BRAIN)					
MEAN	29.312	28.638	27.635	28.610	29.340
% DIFFERENCE		-2.3	-5.7	-2.4	0.1
S.D.	4.7776	3.8162	3.7477	3.5261	5.4325
S.E.	1.5108	1.2068	1.1851	1.1150	1.7179
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
THYMUS (G)						
MEAN		0.2453	0.2396	0.2882	0.2483	0.2619
% DIFFERENCE			-2.3	17.5	1.2	6.8
S.D.		0.02722	0.07538	0.09252	0.08762	0.05173
S.E.		0.00861	0.02384	0.02926	0.02771	0.01636
N		10	10	10	10	10
THYMUS (G/100 G FINAL BODY WEIGHT)						
MEAN		0.087	0.091	0.107	0.093	0.096
% DIFFERENCE			4.6	23.0	6.9	10.3
S.D.		0.0077	0.0276	0.0324	0.0298	0.0160
S.E.		0.0024	0.0087	0.0102	0.0094	0.0051
N		10	10	10	10	10
THYMUS (G/100 G BRAIN)						
MEAN		12.832	12.861	14.798	12.922	13.764
% DIFFERENCE			0.2	15.3	0.7	7.3
S.D.		1.4495	3.9762	4.5701	4.6489	2.8086
S.E.		0.4584	1.2574	1.4452	1.4701	0.8882
N		10	10	10	10	10
THYROID/SPARATHY (G)						
MEAN		0.0154	0.0139	0.0148	0.0150	0.0146
% DIFFERENCE			-9.7	-3.9	-2.6	-5.2
S.D.		0.00237	0.00173	0.00248	0.00306	0.00190
S.E.		0.00075	0.00055	0.00079	0.00097	0.00060
N		10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

GROUP:		FEMALES				
		UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY

THYROID/SPRATHY (G/100 G FINAL BODY WEIGHT)						
MEAN		0.006	0.005	0.005	0.006	0.005
% DIFFERENCE			-16.7	-16.7	0.0	-16.7
S.D.		0.0008	0.0007	0.0010	0.0012	0.0008
S.E.		0.0003	0.0002	0.0003	0.0004	0.0003
N		10	10	10	10	10
THYROID/SPRATHY (G/100 G BRAIN)						
MEAN		0.806	0.745	0.759	0.784	0.763
% DIFFERENCE			-7.6	-5.8	-2.7	-5.3
S.D.		0.1150	0.0840	0.1151	0.1839	0.0857
S.E.		0.0364	0.0266	0.0364	0.0582	0.0271
N		10	10	10	10	10
UTERUS (G)						
MEAN		0.68	0.64	0.66	0.64	0.63
% DIFFERENCE			-5.9	-2.9	-5.9	-7.4
S.D.		0.158	0.172	0.222	0.258	0.221
S.E.		0.050	0.055	0.070	0.082	0.070
N		10	10	10	10	10
UTERUS (G/100 G FINAL BODY WEIGHT)						
MEAN		0.242	0.241	0.246	0.245	0.233
% DIFFERENCE			-0.4	1.7	1.2	-3.7
S.D.		0.0562	0.0602	0.0728	0.1035	0.0824
S.E.		0.0178	0.0190	0.0230	0.0327	0.0261
N		10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

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TABLE S15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF ORGAN WEIGHTS AND RELATIVE ORGAN WEIGHTS

PAGE 18

GROUP:	FEMALES				
	UNTREATED	0 MG/KG/DAY	100 MG/KG/DAY	300 MG/KG/DAY	600 MG/KG/DAY
UTERUS (G/100 G BRAIN)					
MEAN	35.719	34.600	34.202	33.736	32.867
% DIFFERENCE		-3.1	-4.2	-5.6	-8.0
S.D.	9.1731	10.3474	11.4863	14.6406	11.0175
S.E.	2.9008	3.2721	3.6323	4.6298	3.4840
N	10	10	10	10	10

For statistical analyses, control group 2 was compared to groups 3, 4 and 5; control group 1 was compared to group 2.
None significantly different from control group

POFBSTv5.26
10/18/2011
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SPONSOR:AMERICAN PETROLEUM

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 1

		----- MALE -----				
GROUP:		1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP		10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12		10	10	10	10	10
ADRENAL CORTEX						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	9
-HYPERTROPHY		0	0	0	0	1
MILD (F M N)		NONE	NONE	NONE	NONE	1 - -
ADRENAL MEDULLA						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
AORTA						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		9	10	10	10	10
-MACROPHAGES, PIGMENTED		1	0	0	0	0
MINIMAL (F M N)		- - 1	NONE	NONE	NONE	NONE
BRAIN						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
CECUM						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	9
-INFILTRATE, MONONUCLEAR		0	0	0	0	1
MILD (F M N)		NONE	NONE	NONE	NONE	- - 1
1- UNTREATED		2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED						

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 3

		----- MALE -----														
GROUP:		1			2			3			4			5		
NUMBER OF ANIMALS IN DOSE GROUP		10			10			10			10			10		
NUMBER OF ANIMALS EXAMINED WEEK 12		10			10			10			10			10		
FEMUR																
TOTAL NUMBER EXAMINED		10			10			9			10			10		
EXAMINED, UNREMARKABLE		10			10			9			10			10		
NOT PRESENT FOR EXAMINATION		0			0			1			0			0		
HEART																
TOTAL NUMBER EXAMINED		10			10			10			10			10		
EXAMINED, UNREMARKABLE		6			5			3			2			4		
-CARDIOMYOPATHY		4			5			7			8			6		
MINIMAL (F M N)		3	1	-	2	3	-	1	6	-	1	6	1	-	6	-
ILEUM																
TOTAL NUMBER EXAMINED		10			10			10			10			10		
EXAMINED, UNREMARKABLE		10			9			10			8			10		
-ABSCCESS, CRYPTS		0			1			0			1			0		
MINIMAL (F M N)		NONE			1	-	-	NONE			-	-	1	NONE		
-DIVERTICULUM		0			0			0			1			0		
PRESENT (F M N)		NONE			NONE			NONE			-	-	1	NONE		
JEJUNUM																
TOTAL NUMBER EXAMINED		10			10			10			10			10		
EXAMINED, UNREMARKABLE		10			10			10			10			10		

1- UNTREATED		2- 0 MG/KG/DAY			3- 100 MG/KG/DAY			4- 300 MG/KG/DAY			5- 600 MG/KG/DAY					
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED																

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 4

----- MALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
JOINT					
TOTAL NUMBER EXAMINED	10	10	9	10	10
EXAMINED, UNREMARKABLE	10	10	9	10	10
NOT PRESENT FOR EXAMINATION	0	0	1	0	0
KIDNEYS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	4	3	6	6	2
-DILATATION, TUBULAR	0	1	0	0	0
MILD (F M N)	NONE	1 - -	NONE	NONE	NONE
-NEPHROPATHY, CHRONIC PROGRESSIVE	6	7	4	4	8
MINIMAL (F M N)	- 6 -	- 6 1	1 3 -	- 4 -	- 8 -
LAC. GLAND EXOR					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	9	8	9
-INFILTRATE, MONONUCLEAR	0	0	0	2	1
MINIMAL (F M N)	NONE	NONE	NONE	1 1 -	- 1 -
-INFILTRATE, NEUTROPHIL	0	0	1	0	0
MINIMAL (F M N)	NONE	NONE	- 1 -	NONE	NONE
LIVER					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	0	0	1	0	0
-FIBROSIS, CAPSULAR	0	0	1	0	0
MODERATE (F M N)	NONE	NONE	- - 1	NONE	NONE
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- MALE -----					

GROUP:	1	2	3	4	5

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
LIVER - CONTINUED					
-FOCUS, BASOPHILIC CELL	0	0	0	0	1
MINIMAL (F M N)	NONE	NONE	NONE	NONE	1 - -
-INFILTRATE, MONONUCLEAR	10	10	9	10	10
MINIMAL (F M N)	- 10 -	- 9 -	- 9 -	- 9 -	- 9 -
MILD (F M N)	NONE	- 1 -	NONE	- 1 -	- 1 -
-MINERALIZATION	0	0	1	0	0
MILD (F M N)	NONE	NONE	1 - -	NONE	NONE
-NECROSIS, COAGULATIVE	0	1	0	0	1
MINIMAL (F M N)	NONE	1 - -	NONE	NONE	1 - -
LN, AXILLARY					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
LN, MANDIBULAR					
TOTAL NUMBER EXAMINED	10	10	9	10	10
EXAMINED, UNREMARKABLE	10	10	9	10	10
NOT PRESENT FOR EXAMINATION	0	0	1	0	0
LN, MESENTERIC					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 6

----- MALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
LUNGS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	9	6	7	9	6
-INFILTRATE, MONONUCLEAR, PERIVASCULAR	0	1	0	0	0
MINIMAL (F M N)	NONE	- - 1	NONE	NONE	NONE
-INFILTRATE, MONONUCLEAR, SUBPLEURAL	0	0	1	0	1
MINIMAL (F M N)	NONE	NONE	- 1 -	NONE	- 1 -
-MACROPHAGES, ALVEOLAR	1	3	2	1	4
MINIMAL (F M N)	- 1 -	3 - -	- 2 -	- 1 -	2 2 -
MARROW, FEMUR					
TOTAL NUMBER EXAMINED	10	10	9	10	10
EXAMINED, UNREMARKABLE	10	10	9	10	10
NOT PRESENT FOR EXAMINATION	0	0	1	0	0
MARROW, STERN					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
NERVE, SCIATIC					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	9
-INFILTRATE, MONONUCLEAR	0	0	0	0	1
MINIMAL (F M N)	NONE	NONE	NONE	NONE	- 1 -
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 7

----- MALE -----						
GROUP:		1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP		10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12		10	10	10	10	10
NERVES, OPTIC						
TOTAL NUMBER EXAMINED		9	10	9	10	10
EXAMINED, UNREMARKABLE		9	10	9	10	10
NOT PRESENT FOR EXAMINATION		1	0	1	0	0
PANCREAS						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		9	8	10	10	9
-FIBROPLASIA, ISLETS		0	1	0	0	0
MINIMAL (F M N)		NONE	1 - -	NONE	NONE	NONE
-FIBROSIS, INTERSTITIAL		1	2	0	0	1
MINIMAL (F M N)		1 - -	2 - -	NONE	NONE	- - 1
PARATHYROIDES						
TOTAL NUMBER EXAMINED		10	8	8	8	9
EXAMINED, UNREMARKABLE		10	8	8	8	9
NOT PRESENT FOR EXAMINATION		0	2	2	2	1
PITUITARY						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	9	10	9
-CYST, PARS DISTALIS		0	0	1	0	1
PRESENT (F M N)		NONE	NONE	1 - -	NONE	1 - -
1- UNTREATED						
2- 0 MG/KG/DAY						
3- 100 MG/KG/DAY						
4- 300 MG/KG/DAY						
5- 600 MG/KG/DAY						

(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 8

----- MALE -----						
GROUP:		1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP		10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12		10	10	10	10	10
PROSTATE						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		6	5	7	6	7
-EXUDATE, INFLAMMATORY		0	1	0	2	0
MINIMAL	(F M N)	NONE	NONE	NONE	2 - -	NONE
MILD	(F M N)	NONE	- - 1	NONE	NONE	NONE
-FIBROSIS, INTERSTITIAL		0	0	0	0	1
MILD	(F M N)	NONE	NONE	NONE	NONE	1 - -
-INFILTRATE, MONONUCLEAR		4	3	1	2	2
MINIMAL	(F M N)	- - 4	- - 2	NONE	- - 1	- - 1
MILD	(F M N)	NONE	- - 1	- - 1	- - 1	- - 1
-INFLAMMATION, CHRONIC ACTIVE		0	0	1	0	0
MILD	(F M N)	NONE	NONE	1 - -	NONE	NONE
-INFLAMMATION, SUBACUTE		0	1	1	0	0
MINIMAL	(F M N)	NONE	1 - -	- - 1	NONE	NONE
RECTUM						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
SAL. GLAND MAND						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
1- UNTREATED						
2- 0 MG/KG/DAY						
3- 100 MG/KG/DAY						
4- 300 MG/KG/DAY						
5- 600 MG/KG/DAY						
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED						

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 9

----- MALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
SEMINAL VESICLES					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
SKELETAL MUSCLE					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	9	10
-DEGENERATION, MUSCLE	0	0	0	1	0
MINIMAL (F M N)	NONE	NONE	NONE	- 1 -	NONE
SKIN					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	5	1	2	0	0
-INFILTRATE, MONONUCLEAR	5	9	8	10	9
MINIMAL (F M N)	- - 5	- - 9	- - 8	- - 10	- - 9
-INFLAMMATION, CHRONIC ACTIVE	0	0	0	0	1
MODERATE (F M N)	NONE	NONE	NONE	NONE	- - 1
SKIN, TREATED					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	2	0	0	0	0
-INFILTRATE, HISTIOCYTE	0	0	0	1	0
MINIMAL (F M N)	NONE	NONE	NONE	1 - -	NONE
-INFILTRATE, MONONUCLEAR	8	10	10	10	10
MINIMAL (F M N)	1 - 7	- - 10	- - 9	- - 9	- - 9
MILD (F M N)	NONE	NONE	- - 1	- - 1	- - 1
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 10

		-----		MALE		-----									
GROUP:		1		2		3		4		5					
NUMBER OF ANIMALS IN DOSE GROUP		10		10		10		10		10					
NUMBER OF ANIMALS EXAMINED WEEK 12		10		10		10		10		10					
SKIN, UNTREATED															
TOTAL NUMBER EXAMINED		10		10		10		10		10					
EXAMINED, UNREMARKABLE		5		4		7		2		3					
-INFILTRATE, MONONUCLEAR		5		6		3		8		7					
MINIMAL (F M N)		-	-	5	-	-	6	-	-	3	-	8	1	-	6
SPINAL CORD															
TOTAL NUMBER EXAMINED		10		10		10		10		10					
EXAMINED, UNREMARKABLE		10		10		10		10		10					
SPLEEN															
TOTAL NUMBER EXAMINED		10		10		10		10		10					
EXAMINED, UNREMARKABLE		10		10		10		10		10					
STERNUM															
TOTAL NUMBER EXAMINED		10		10		10		10		10					
EXAMINED, UNREMARKABLE		10		10		10		10		10					
STOMACH, GLAN															
TOTAL NUMBER EXAMINED		10		10		10		10		10					
EXAMINED, UNREMARKABLE		9		10		8		10		10					
-DILATATION, GLANDULAR		1		0		2		0		0					
MINIMAL (F M N)		-	-	1	NONE		-	-	2	NONE		NONE			
1- UNTREATED		2- 0 MG/KG/DAY		3- 100 MG/KG/DAY		4- 300 MG/KG/DAY		5- 600 MG/KG/DAY							
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED															

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 11

----- MALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
STOMACH, NON					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
TESTES					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	9	10	10	8
-ATROPHY, SEMINIFEROUS TUBULES	0	1	0	0	2
MINIMAL (F M N)	NONE	- - 1	NONE	NONE	1 - -
SEVERE (F M N)	NONE	NONE	NONE	NONE	- - 1
THYMUS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	9	7	9	10	8
-HEMORRHAGE	1	3	1	0	2
MINIMAL (F M N)	- 1 -	- 2 -	NONE	NONE	- 2 -
MILD (F M N)	NONE	- 1 -	- - 1	NONE	NONE
THYROID GLANDS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	9	10	10
-ECTOPIC THYMUS	0	0	1	0	0
PRESENT (F M N)	NONE	NONE	1 - -	NONE	NONE
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 12

----- MALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
TRACHEA					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
URINARY BLADDER					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	9	10	10	10	10
-INFILTRATE, MONONUCLEAR	1	0	0	0	0
MINIMAL (F M N)	1 - -	NONE	NONE	NONE	NONE
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 13

----- FEMALE -----													
GROUP :				1		2		3		4		5	
NUMBER OF ANIMALS IN DOSE GROUP				10		10		10		10		10	
NUMBER OF ANIMALS EXAMINED WEEK 12				10		10		10		10		10	
ADRENAL CORTEX													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				9		10		8		10		10	
-HYPERTROPHY				1		0		1		0		0	
MINIMAL (F M N)				1 - -		NONE		1 - -		NONE		NONE	
-NECROSIS, SINGLE CELL				0		0		1		0		0	
MINIMAL (F M N)				NONE		NONE		- - 1		NONE		NONE	
ADRENAL MEDULLA													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				10		10		10		10		10	
AORTA													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				10		10		10		10		10	
BRAIN													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				10		10		8		10		10	
-MACROPHAGES, PIGMENTED				0		0		1		0		0	
MINIMAL (F M N)				NONE		NONE		1 - -		NONE		NONE	
-MINERALIZATION				0		0		1		0		0	
MINIMAL (F M N)				NONE		NONE		1 - -		NONE		NONE	

1- UNTREATED		2- 0 MG/KG/DAY		3- 100 MG/KG/DAY		4- 300 MG/KG/DAY		5- 600 MG/KG/DAY					
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED													

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 14

----- FEMALE -----					

GROUP:	1	2	3	4	5

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
CECUM					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	9	10
-INFILTRATE, MONONUCLEAR	0	0	0	1	0
MINIMAL (F M N)	NONE	NONE	NONE	- - 1	NONE
CERVIX					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	8	7	10	9	9
-HYPERPLASIA, SQUAMOUS EPITHELIUM	2	3	0	1	0
MILD (F M N)	- - 2	- - 2	NONE	- - 1	NONE
MODERATE (F M N)	NONE	- - 1	NONE	NONE	NONE
-MUCIFICATION	0	0	0	0	1
MINIMAL (F M N)	NONE	NONE	NONE	NONE	- - 1
COLON					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
DIAPHRAGM					
TOTAL NUMBER EXAMINED	NA	NA	NA	1	NA
EXAMINED, UNREMARKABLE	NA	NA	NA	1	NA

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
NA = NOT APPLICABLE (F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 15

----- FEMALE -----

GROUP:		1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP		10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12		10	10	10	10	10
DUODENUM						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
ESOPHAGUS						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
EYES						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	9	9
-ROSETTE, RETINA		0	0	0	1	1
PRESENT (F M N)		NONE	NONE	NONE	1 - -	- 1 -
FEMUR						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		10	10	10	10	10
HEART						
TOTAL NUMBER EXAMINED		10	10	10	10	10
EXAMINED, UNREMARKABLE		7	8	8	8	9
-CARDIOMYOPATHY		3	2	2	2	1
MINIMAL (F M N)		1 2 -	1 1 -	1 1 -	- 2 -	- 1 -
1- UNTREATED						
2- 0 MG/KG/DAY						
3- 100 MG/KG/DAY						
4- 300 MG/KG/DAY						
5- 600 MG/KG/DAY						
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED						

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 16

----- FEMALE -----					

GROUP:	1	2	3	4	5

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
ILEUM					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	9	10	10	10
-ABSCCESS, CRYPTS	0	1	0	0	0
MINIMAL (F M N)	NONE	1 - -	NONE	NONE	NONE
JEJUNUM					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
JOINT					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
KIDNEYS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	5	8	7	5	5
-DILATATION, PELVIS	0	0	0	1	0
MILD (F M N)	NONE	NONE	NONE	- - 1	NONE
-INFLAMMATION, SUBACUTE	0	0	0	1	0
MINIMAL (F M N)	NONE	NONE	NONE	1 - -	NONE
-MINERALIZATION	2	1	3	3	3
MINIMAL (F M N)	- 1 1	- 1 -	- 2 -	- 3 -	1 2 -
MILD (F M N)	NONE	NONE	- - 1	NONE	NONE

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 17

----- FEMALE -----															
GROUP:			1		2		3		4		5				
NUMBER OF ANIMALS IN DOSE GROUP			10		10		10		10		10				
NUMBER OF ANIMALS EXAMINED WEEK 12			10		10		10		10		10				
KIDNEYS - CONTINUED															
-NEPHROPATHY, CHRONIC PROGRESSIVE			4		2		2		2		3				
MINIMAL (F M N)			2	2	-	1	1	-	1	1	-	-	3	-	
LAC. GLAND EXOR															
TOTAL NUMBER EXAMINED			10		10		10		10				10		
EXAMINED, UNREMARKABLE			10		7		8		9				10		
-INFILTRATE, MONONUCLEAR			0		3		2		1				0		
MINIMAL (F M N)			NONE		1		1		1		-	-	NONE		
LIVER															
TOTAL NUMBER EXAMINED			10		10		10		10				10		
EXAMINED, UNREMARKABLE			1		2		0		2				1		
-FOCUS, BASOPHILIC CELL			0		1		0		0				0		
MINIMAL (F M N)			NONE		1		-		NONE		NONE		NONE		
-FOCUS, CLEAR CELL			1		0		0		0				0		
MINIMAL (F M N)			1		-		NONE		NONE		NONE		NONE		
-HYPERPLASIA, BILE DUCT			1		0		1		0				0		
MINIMAL (F M N)			-		-		1		NONE		NONE		NONE		
-INFILTRATE, MONONUCLEAR			9		8		10		8				9		
MINIMAL (F M N)			-		7		-		-		8		-	9	-
MILD (F M N)			-		2		-		NONE		NONE			NONE	

1- UNTREATED			2- 0 MG/KG/DAY			3- 100 MG/KG/DAY			4- 300 MG/KG/DAY			5- 600 MG/KG/DAY			
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED															

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
LN, AXILLARY					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	9	9	10	10
-ERYTHROCYTOSIS, SINUS	0	1	1	0	0
MINIMAL (F M N)	NONE	- - 1	- - 1	NONE	NONE
LN, MANDIBULAR					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	9	10
-ERYTHROCYTOSIS, SINUS	0	0	0	1	0
MILD (F M N)	NONE	NONE	NONE	- - 1	NONE
LN, MESENTERIC					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
LUNGS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	7	8	10	9
-INFILTRATE, EOSINOPHIL, PERIVASCULAR	0	0	1	0	0
MINIMAL (F M N)	NONE	NONE	1 - -	NONE	NONE
-MACROPHAGES, ALVEOLAR	0	3	1	0	1
MINIMAL (F M N)	NONE	1 2 -	1 - -	NONE	NONE
MILD (F M N)	NONE	NONE	NONE	NONE	- 1 -
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 19

----- FEMALE -----									
GROUP:			1	2	3	4	5		
NUMBER OF ANIMALS IN DOSE GROUP			10	10	10	10	10	10	
NUMBER OF ANIMALS EXAMINED WEEK 12			10	10	10	10	10	10	
MAMMARY GLAND									
TOTAL NUMBER EXAMINED			10	10	10	10	10	10	
EXAMINED, UNREMARKABLE			10	9	10	10	10	10	
-INCREASED SECRETION			0	1	0	0	0	0	
MILD (F M N)			NONE	- - 1	NONE	NONE	NONE	NONE	
MARROW, FEMUR									
TOTAL NUMBER EXAMINED			10	10	10	10	10	10	
EXAMINED, UNREMARKABLE			10	10	10	10	10	10	
MARROW, STERN									
TOTAL NUMBER EXAMINED			10	10	10	10	10	10	
EXAMINED, UNREMARKABLE			10	10	10	10	10	10	
NERVE, SCIATIC									
TOTAL NUMBER EXAMINED			10	10	10	10	10	10	
EXAMINED, UNREMARKABLE			10	10	10	10	10	10	
NERVES, OPTIC									
TOTAL NUMBER EXAMINED			10	10	10	10	10	9	
EXAMINED, UNREMARKABLE			10	10	10	10	10	9	
NOT PRESENT FOR EXAMINATION			0	0	0	0	0	1	

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY					
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED									

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 20

----- FEMALE -----					

GROUP:	1	2	3	4	5

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
OVARIES					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	8	7	10	7	10
-CYST, FOLLICULAR, LUTEINIZED	0	0	0	2	0
PRESENT (F M N)	NONE	NONE	NONE	1 1 -	NONE
-DECREASED CORPORA LUTEA	2	3	0	1	0
MODERATE (F M N)	- - 1	- - 1	NONE	- - 1	NONE
SEVERE (F M N)	- - 1	- - 2	NONE	NONE	NONE
OVIDUCTS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
PANCREAS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	7	10	9	10	9
-FIBROPLASIA, ISLETS	0	0	0	0	1
MINIMAL (F M N)	NONE	NONE	NONE	NONE	1 - -
-FIBROSIS, INTERSTITIAL	1	0	0	0	0
MILD (F M N)	1 - -	NONE	NONE	NONE	NONE
-INFILTRATE, MONONUCLEAR	2	0	1	0	0
MINIMAL (F M N)	1 - -	NONE	1 - -	NONE	NONE
MILD (F M N)	1 - -	NONE	NONE	NONE	NONE

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 21

----- FEMALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
PARATHYROIDS					
TOTAL NUMBER EXAMINED	8	7	10	10	8
EXAMINED, UNREMARKABLE	8	7	10	10	8
NOT PRESENT FOR EXAMINATION	2	3	0	0	2
PITUITARY					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	9	10	10
-MINERALIZATION	0	0	1	0	0
MINIMAL (F M N)	NONE	NONE	1 - -	NONE	NONE
RECTUM					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
SAL. GLAND MAND					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
SKELETAL MUSCLE					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	9	10	10	10	10
-DEGENERATION, MUSCLE	1	0	0	0	0
MINIMAL (F M N)	- 1 -	NONE	NONE	NONE	NONE

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----													

GROUP :				1		2		3		4		5	

NUMBER OF ANIMALS IN DOSE GROUP				10		10		10		10		10	
NUMBER OF ANIMALS EXAMINED WEEK 12				10		10		10		10		10	
SKIN													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				5		0		3		2		2	
-INFILTRATE, HISTIOCYTE				1		0		0		0		0	
MINIMAL (F M N)				1 - -		NONE		NONE		NONE		NONE	
-INFILTRATE, MONONUCLEAR				5		10		7		8		8	
MINIMAL (F M N)				- - 5		- - 9		- - 6		- - 8		- - 8	
MILD (F M N)				NONE		- - 1		- - 1		NONE		NONE	
SKIN, TREATED													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				2		2		0		1		0	
-CELLULAR DEBRIS				0		1		0		0		0	
MINIMAL (F M N)				NONE		- - 1		NONE		NONE		NONE	
-INFILTRATE, HISTIOCYTE				2		1		3		0		1	
MINIMAL (F M N)				- 2 -		- 1 -		1 2 -		NONE		- 1 -	
-INFILTRATE, MONONUCLEAR				8		8		10		9		10	
MINIMAL (F M N)				- - 8		- - 6		- - 10		- - 8		- - 8	
MILD (F M N)				NONE		- - 2		NONE		- - 1		- - 2	
SKIN, UNTREATED													
TOTAL NUMBER EXAMINED				10		10		10		10		10	
EXAMINED, UNREMARKABLE				4		5		5		2		1	
-INFILTRATE, HISTIOCYTE				0		0		0		0		1	
MINIMAL (F M N)				NONE		NONE		NONE		NONE		1 - -	

1- UNTREATED		2- 0 MG/KG/DAY		3- 100 MG/KG/DAY		4- 300 MG/KG/DAY		5- 600 MG/KG/DAY					
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED													

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 23

----- FEMALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
SKIN, UNTREATED - CONTINUED					
-INFILTRATE, MONONUCLEAR	6	5	5	8	9
MINIMAL (F M N)	- - 6	- - 5	- - 5	- - 8	- - 9
SPINAL CORD					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
SPLEEN					
TOTAL NUMBER EXAMINED	10	10	10	10	9
EXAMINED, UNREMARKABLE	10	10	10	10	9
NOT PRESENT FOR EXAMINATION	0	0	0	0	1
STERNUM					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	10	10
STOMACH, GLAN					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	9	10	10	10
-DILATATION, GLANDULAR	0	1	0	0	0
MINIMAL (F M N)	NONE	- - 1	NONE	NONE	NONE
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 24

----- FEMALE -----						

GROUP:	1	2	3	4	5	

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10	
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10	
STOMACH, NON						
TOTAL NUMBER EXAMINED	10	10	10	10	10	
EXAMINED, UNREMARKABLE	10	10	9	10	10	
-INFLAMMATION, VASCULAR	0	0	1	0	0	
MINIMAL (F M N)	NONE	NONE	1 - -	NONE	NONE	
THYMUS						
TOTAL NUMBER EXAMINED	10	10	10	10	10	
EXAMINED, UNREMARKABLE	7	10	9	9	8	
-HEMORRHAGE	3	0	1	1	2	
MINIMAL (F M N)	- 1 -	NONE	NONE	- 1 -	- 1 -	
MILD (F M N)	- 2 -	NONE	- 1 -	NONE	- 1 -	
THYROID GLANDS						
TOTAL NUMBER EXAMINED	10	10	10	10	10	
EXAMINED, UNREMARKABLE	10	10	10	9	10	
-ECTOPIC THYMUS	0	0	0	1	0	
PRESENT (F M N)	NONE	NONE	NONE	1 - -	NONE	
TRACHEA						
TOTAL NUMBER EXAMINED	10	10	10	10	10	
EXAMINED, UNREMARKABLE	10	10	10	10	10	

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY		
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED						

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

----- FEMALE -----					

GROUP:	1	2	3	4	5

NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
URINARY BLADDER					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	10	10	10	9	10
-INFILTRATE, MONONUCLEAR	0	0	0	1	0
MINIMAL (F M N)	NONE	NONE	NONE	1 - -	NONE
UTERUS					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	5	4	6	7	7
-DILATATION, LUMEN	5	3	4	2	3
MINIMAL (F M N)	- - 4	- - 2	- - 2	- - 1	NONE
MILD (F M N)	- - 1	NONE	- - 2	- - 1	- - 1
MODERATE (F M N)	NONE	- - 1	NONE	NONE	- - 2
-HYPERPLASIA, ENDOMETRIAL	0	3	0	1	0
MINIMAL (F M N)	NONE	- - 2	NONE	NONE	NONE
MILD (F M N)	NONE	- - 1	NONE	- - 1	NONE
VAGINA					
TOTAL NUMBER EXAMINED	10	10	10	10	10
EXAMINED, UNREMARKABLE	0	0	0	0	0
-ESTROUS CYCLE: DIESTRUS	3	3	5	5	6
PRESENT (F M N)	- - 3	- - 3	- - 5	- - 5	- - 6
-ESTROUS CYCLE: ESTRUS	1	1	0	1	0
PRESENT (F M N)	- - 1	- - 1	NONE	- - 1	NONE

1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE S16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF MICROSCOPIC FINDINGS

PAGE 26

----- FEMALE -----					
GROUP:	1	2	3	4	5
NUMBER OF ANIMALS IN DOSE GROUP	10	10	10	10	10
NUMBER OF ANIMALS EXAMINED WEEK 12	10	10	10	10	10
VAGINA - CONTINUED					
-ESTROUS CYCLE: PROESTRUS	4	3	5	3	3
PRESENT (F M N)	- - 4	- - 3	- - 5	- - 3	- - 3
-HYPERPLASIA, SQUAMOUS EPITHELIUM	2	3	0	1	0
MILD (F M N)	- - 2	- - 2	NONE	- - 1	NONE
MODERATE (F M N)	NONE	- - 1	NONE	NONE	NONE
-MUCIFICATION	0	0	0	0	1
MILD (F M N)	NONE	NONE	NONE	NONE	- - 1
1- UNTREATED	2- 0 MG/KG/DAY	3- 100 MG/KG/DAY	4- 300 MG/KG/DAY	5- 600 MG/KG/DAY	
(F M N) = FOCAL/SOLITARY, MULTIFOCAL/MULTIPLE, NOT SPECIFIED					

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11/07/2011
R:11/07/2011

APPENDIX A

Study Protocol and Deviations

DEVIATIONS FROM THE PROTOCOL

This study was conducted in accordance with the protocol and protocol amendments, except for the following.

- **Protocol Section 2** states that the study will be conducted in general accordance with the OECD Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 474, 21 July 1997. However, this was not the intent for this study design; therefore, the study was not conducted in general accordance with these guidelines.

Reason for Deviation: Erroneous protocol wording.

- **Protocol Section 6.5** states that the male animals will weigh approximately 240 g to 340 g and the female animals will weigh approximately 170 g to 270 g at randomization. However, on 5 May 2011 (study day -4), body weights ranged from 209 g to 253 g and 161 g to 188 g for males and females, respectively.

Reason for Deviation: Body weights out of protocol-specified range.

- **Protocol Section 7.2** states that controls will be set to maintain relative humidity at approximately $50 \pm 20\%$. However, on 18 and 19 July 2011 (study days 70 and 71, respectively), the mean relative humidity was 70.30%.

Reason for Deviation: Relative humidity out of protocol-specified range.

- **Protocol Section 8.1** states that animals judged to be in good health will be placed immediately in acclimation for at least 14 days. The date of animal receipt was 26 April 2011 and study day 0 was 9 May 2011; therefore, the acclimation period was only 13 days.

Reason for Deviation: Scheduling error.

- **Protocol section 8.3.5** states that following each wash procedure, all animals will be transferred to clean cages. On 22 July 2011 (study day 74), documentation indicated that cage change was performed prior to test article removal.

Reason for Deviation: Technician error.

- **Protocol section 8.4.3** states that test substance formulation samples will be collected using class A pipettes. However, due to the nature of the vehicle, the use of class A pipettes was not feasible; therefore, the samples were collected using a 1-mL syringe and cannula.

Reason for Deviation: Use of different laboratory tools for sample collection due to the nature of the vehicle.

- **Protocol Section 9.5** states that individual food consumption will be recorded for all animals approximately once weekly. However, on 4 July 2011 (study day 56), the old food jar for female no. 11066 (100 mg/kg/day group) was inadvertently dumped before a food weight was recorded; therefore, female no. 11066 did not have a food consumption interval for study week 7 to 8.

Reason for Deviation: Technician error.

- **Protocol Section 9.6** states that ophthalmic examinations will be conducted using an indirect ophthalmoscope and slit-lamp biomicroscope. However, on 5 August 2011 (study day 88), the equipment used for the examinations was not documented.

Reason for Deviation: Technician error.

- **Protocol Section 9.8.1** states that testes and epididymides are to be placed in Bouin's solution at the time of necropsy. On 6 August 2011 (study day 89), the epididymides and testes of male no. 11028 (100 mg/kg/day group) were inadvertently placed in 10% neutral-buffered formalin. On the following day the organs were transferred to a jar containing Bouin's solution.

Reason for Deviation: Technician error.

- **Protocol Section 9.8.1** states that the spleen from all animals will be placed in 10% neutral-buffered formalin at the time of necropsy. On 19 August 2011, 2 spleens were found in the tissues collected for female no. 11075 (300 mg/kg/day group) and no spleen was found in the tissues for female no. 11062 (500 mg/kg/day group). Because it could not be determined which spleen belonged to which animal, sections from both uteri were processed and examined with the tissues from animal no. 11075.

Reason for Deviation: Technician error.

On 22 July 2011, WIL Research experienced power fluctuations throughout the day. As a result, there were sporadic interruptions in the light cycle and recording of the light status within the animal rooms. In addition, excursions in temperature and humidity and recording of these parameters, as well as interruptions in the number of air changes per hour were possible. As these occurrences were sporadic in nature and any excursions in temperature and humidity were minor, these deviations from the protocol-specified environmental conditions were not deemed to have an adverse impact on the health and well-being of the animals or the outcome of the study.

These deviations did not negatively impact the quality or integrity of the data nor the outcome of the study.



PROTOCOL AMENDMENT 4

Study Number: WIL-402025

Sponsor: American Petroleum Institute

Title of Study:

A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Protocol Modifications:

1) 4 Study Schedule:

Experimental Completion Date:

(Last histopathological examination):

10 October 2011

Reasons for Protocol Modification:

- 1) Addition of experimental completion date.

Approval:

Sponsor's approval was obtained via telephone/e-mail on 07 Aug 2012.
Date

WIL Research

Angela S Burke
Angela S. Burke, PhD, DABT
Study Director

07 Aug 2012
Date

American Petroleum Institute

Russell D White
Russell White
Sponsor Representative

08 August 2012
Date



Study Number: WIL-402025

PROTOCOL AMENDMENT 3

Sponsor: American Petroleum Institute

Study Title:

A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Protocol Modifications:

- 1) The following section of the protocol will be amended to read as follows:

10 Statistical Methods:

All analyses will be two-tailed for significance levels of 5% and/or 1%. All means will be presented with standard deviations. All statistical tests will be performed using appropriate computing devices or programs.

Body weight, body weight change, food consumption, clinical pathology, and organ weight (absolute and relative) data, for the vehicle control group (Group 2) and all test substance-treated groups (Groups 3-5) were subjected to a one-way analysis of variance (ANOVA) (Snedecor and Cochran, 1980) to determine intergroup differences. If the ANOVA revealed statistically significant ($p < 0.05$) intergroup variance, Dunnett's test (Dunnett, 1964) was used to compare the test substance-treated groups (Groups 3-5) to the vehicle control group (Group 2). The vehicle control group (Group 2) data were evaluated using the Student's t-Test (Sokal and Rohlf, 1981) and compared to the sham control group (Group 1) at a 95% confidence level ($p < 0.05$).

Gamma glutamyltransferase (GGT) values under range were assigned a value of 0.1 (half the lower limit of quantitation) for statistical analysis and reporting. GGT data were subjected to the Kruskal-Wallis nonparametric ANOVA test (Kruskal and Wallis, 1952) to determine intergroup differences. If the ANOVA revealed significance ($p < 0.05$), Dunn's test (Dunn, 1964) was used to compare the test substance-treated groups (Groups 3-5) to the vehicle control group (Group 2). In

addition, the sham control group (Group 1) and vehicle control group (Group 2) were compared using a separate Kruskal-Wallis nonparametric ANOVA test.

- 2) The following section of the protocol is amended to add the following:

17 References:

Sokal, R.R. and Rohlf, F.J. In: Biometry. Freeman, San Francisco, 1981, pp. 222-229.

Reasons for Protocol Modification:

- 1) Correction of statistical analysis for comparison of vehicle control group to all test-substance treated groups using Dunnett's only if ANOVA is statistically significant. Addition of statistics for the evaluation of the vehicle control group (Group 2) data to the sham control group (Group 1) using the Student's t-Test at a 95% confidence level ($p < 0.05$).
- 2) Addition of statistic reference as appropriate.

Approval:

Sponsor's approval was obtained via e-mail on 04 November 2011.
Date

WIL Research Laboratories, LLC

Angela S. Burke
Angela S. Burke, PhD
Study Director

04 November 2011
Date

Jozef J.W.M. Mertens
Jozef J.W.M. Mertens, PhD, DABT
Senior Director, General Toxicology

04 Nov 2011
Date

American Petroleum Institute

Russell D. White
Russell White
Sponsor Representative

10 Nov 2011
Date



Study Number: WIL-402025

PROTOCOL AMENDMENT 2

Sponsor: American Petroleum Institute

Study Title:

A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Protocol Modifications:

1) 2 Regulatory Compliance

The United States EPA Health Effects Test Guideline 40 CFR 798.5395 will be removed from the protocol.

Reasons for Protocol Modification:

- 1) The guideline does not pertain to this study design and was inadvertently included in the protocol.

Approval:

Sponsor's approval was obtained via e-mail on 14 October 2011
Date

WIL Research Laboratories, LLC

Angela S Burke 17 October 2011
Angela S. Burke, PhD
Study Director Date

Jozef J.W.M. Mertens 17 Oct 2011
Jozef J.W.M. Mertens, PhD, DABT
Senior Director, General Toxicology Date

American Petroleum Institute

Russell D. White 15 Nov. 2011
Russell White
Sponsor Representative Date



Study Number: WIL-402025

PROTOCOL AMENDMENT 1

Sponsor: American Petroleum Institute

Title of Study:

A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Protocol Modifications:

1) **8.3.6 Method of Administration and Dose Calculations:**

The section referenced in the last sentence of this section of the protocol is amended to:

Section 8.3.5

2) **9.8.1 Macroscopic Examination:**

The footnote "a" designation is removed from the tissue "Femur with joint."

3) **9.8.3 Microscopic Examination:**

Microscopic examination of hematoxylin-eosin stained paraffin sections will be conducted on all tissues listed in Section 9.8.1 from all animals euthanized *in extremis* or found dead, and from all surviving animals euthanized at the scheduled necropsy.

Reasons for Protocol Modification:

- 1) Correction of section referenced.
- 2) Removal of footnote designation from selected tissue.
- 3) Change in scope of microscopic examination.

Approval:

Sponsor's approval was obtained via e-mail on 5/2/11.
Date

WIL Research Laboratories, LLC

Angela S Burke
Angela S. Burke, PhD
Study Director

02 May 2011
Date

Jozef I.W.M. Mertens
Jozef I.W.M. Mertens, PhD, DABT
Senior Director, General Toxicology

2 May 2011
Date

American Petroleum Institute

Russell White
Russell White
Sponsor Representative

3 May 2011
Date



Page 1 of 24

WIL-402025
April 25, 2011

PROTOCOL

A 90-DAY REPEAT-DOSE DERMAL TOXICITY STUDY UTILIZING ULTRA-LOW SULFUR DIESEL FUEL IN SPRAGUE DAWLEY RATS

Submitted To:

American Petroleum Institute
1220 L Street, NW
Washington, DC 20005

WIL Research Laboratories, LLC
1407 George Road
Ashland, OH 44805-8946

1 OBJECTIVE:

The objectives of this study are to 1) evaluate the toxicity potential of repeated dermal exposure of Ultra-Low Sulfur Diesel Fuel for 90 days and determine the effects on male and female rats, 2) verify/expand the existing data pertaining to polycyclic aromatic compounds (PAC) and the prediction of toxicity following exposure to high-boiling substances based on their PAC content, and 3) to assist in dose selection for potential future two-generation reproductive studies to be conducted, (OECD 414) in Sprague Dawley rats.

2 REGULATORY COMPLIANCE:

This protocol has been designed and the study will be conducted in general accordance with the United States Environmental Protection Agency (EPA) Health Effects Test Guidelines OPPTS 870.3250, the 40 CFR 798.2250 and 798.5395, and the OECD (Organisation for Economic Cooperation and Development) Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 411, May 12, 1981, and the OECD (Organisation for Economic Cooperation and Development) Guidelines for Testing of Chemicals, Health Effects Test Guidelines, Section 474, July 21, 1997. The study will be conducted in compliance with the EPA (40 CFR Part 792) and OECD Good Laboratory Practice (GLP) Standards, [C(97) 186/Final]. The study will also be performed according to the protocol and WIL standard operating procedures.

3 PERSONNEL INVOLVED IN THE STUDY:**3.1 Sponsor's Representative:**

Russell White, PhD
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
Tel: (202) 682-8344
Email: whiter@api.org

3.2 Sponsor's Technical Monitor:

Katy O. Goyak, PhD
Senior Toxicologist
ExxonMobil Biomedical Sciences, Inc.
1545 Route 22 East
Annandale, New Jersey 08801
Tel: (908) 730-1017
Email: katy.o.goyak@exxonmobil.com

3.3 WIL Study Director:

Angela S. Burke, PhD
Staff Toxicologist, General Toxicology
Tel: (419) 289-8700
Fax: (419) 289-3650
E-mail: aburke@wilresearch.com

3.4 WIL Departmental Responsibilities:

Teresa D. Morris, BS
Senior Toxicologist, General Toxicology
Emergency Contact
Tel: (419) 289-8700
Fax: (419) 289-3650
E-mail: tmorris@wilresearch.com

Mark D. Nemec, BS, DABT
President and Chief Operating Officer

Jozef J.W.M. Mertens, PhD, DABT
Senior Director, General Toxicology

Bennett Varsho, MPH, DABT
Director, Operations

Sally A. Keets, AS
Senior Operations Manager, Vivarium

Erica L. Lashley, BS, LAT
Operations Manager, Toxicology

Gwendalyn M. Maginnis, DVM
Clinical Veterinarian

Theresa M. Rafeld, CPhT
Group Manager, Formulations Laboratory

Carol S. Wally, BA, RLATG, SRS
Group Supervisor, Sample Processing Laboratory

George A. Parker, DVM, PhD, DACVP, DABT
Vice President, Pathology

Susan C. Haley, BS
Operations Manager, Pathology

Evelyn Vedaa, MT
Manager, Clinical Pathology

Carol A. Kopp, BS, LAT
Manager, Gross Pathology and
Developmental Toxicology Laboratory

Michael A. Safron, AS, HT (ASCP)^{CM}
Manager, Histology

Robert A. Wally, BS
Operations Manager, Reporting
and Technical Support Services

Heather L. Johnson, BS, RQAP-GLP
Manager, Quality Assurance

Ronald E. Wilson, BS
Director, Informational Systems

Scott D. Freer, BA
Manager and Research Chemist, Analytical Chemistry

Eric S. Bodle, PhD
Assistant Director, Analytical Chemistry

3.5 Contributing Scientists:

David A. Wilkie, DVM, MS, DACVO
Consulting Ophthalmologist
The Ohio State University

or

Brain C. Gilger, DVM, MS, DACVO
Consulting Ophthalmologist
Ophthalmic Consulting

4 STUDY SCHEDULE:

Proposed Experimental Starting Date: (Animal Receipt Date)	26 April 2011
Proposed Experimental Start Dates: (Proposed Initiation of Dosing)	09 May 2011
Proposed Necropsy Dates:	06 August 2011 (half of each sex/group) 07 August 2011 (half of each sex/group)
Proposed Preliminary Quality Assurance Reviewed Tables and Interpretation:	Approximately 3 weeks following the scheduled necropsy
Proposed Audited Draft Report Date:	Approximately 12-14 weeks following the scheduled necropsy
Proposed Experimental Completion Date:	To be added by amendment

5 TEST SUBSTANCE INFORMATION:**5.1 Test Substance Shipment:**

Test substance and applicable documentation, including a Certificate of Analysis, will be shipped under Sponsor's responsibility to:

Formulations Laboratory (WIL-402025; Angela S. Burke, PhD)
Attn. Larry Blessing
WIL Research Laboratories, LLC
1407 George Road
Ashland, Ohio 44805-8946

5.2 Identification:

Petroleum products, diesel oil (CAS 68334-30-5) also known as ultra-low sulfur diesel fuel

5.3 Lot Number:

Site 1-7 ULSD Blend

5.4 Expiration/Retest Date:

Retest in 5 years

5.5 Purity:

100%

5.6 Stability:

The test substance is considered to be stable under the storage conditions provided by the Sponsor.

5.7 Physical Description:

To be documented by WIL Research Laboratories, LLC.

5.8 Storage Conditions:

Room temperature, protected from light.

5.9 Reserve Samples:

Reserve samples of the test substance will be taken in accordance with WIL Standard Operating Procedures and stored in the Archives at WIL Research Laboratories, LLC indefinitely, unless otherwise specified.

5.10 Personnel Safety:

Provided by the Sponsor. A Material Safety Data Sheet (MSDS) should accompany the test substance upon arrival at the laboratory.

5.11 Test Substance Disposition:

Unless otherwise indicated, all unused test substance will be returned to the Sponsor contact listed below:

EPL Archives, Inc.
45610 Terminal Drive
Sterling, VA 20166
Attn: Joseph Ludi (703) 435-8780 x212

5.12 Vehicle:**5.12.1 Identification:**

Mineral Oil, USP (Spectrum Chemicals and Laboratory Products)

5.12.2 Stability:

The vehicle is considered to be stable under the storage conditions provided by the manufacturer.

5.12.3 Physical Description:

To be documented by WIL Research Laboratories, LLC in the study records.

5.12.4 Storage Conditions:

To be stored as per the conditions provided by the manufacturer.

5.12.5 Reserve Samples:

A reserve sample of the vehicle will not be collected as part of this study.

5.12.6 Personnel Safety:

Routine safety precautions apply. It is the responsibility of the supplier to notify the testing facility of any special handling requirements for the test substance. A Material Safety Data Sheet (MSDS) will be provided.

6 TEST SYSTEM:**6.1 Species:**

Rat

6.2 Strain:

CrI:CD(SD)

6.3 Source:

Charles River Laboratories, Inc.
Facility to be documented in the raw data

6.4 Number of Animals:

Sixty (60) naïve males and 60 naïve females will be purchased. Fifty (50) males and 50 females will be placed on study. Females will be nulliparous and non-pregnant. Animals not utilized on study will be assigned to the WIL stock colony or euthanized by CO₂ inhalation and discarded.

6.5 Approximate Age and Weight:

Animals will be approximately 5-6 weeks of age when received, and approximately 7-8 weeks of age at initiation of dosing. The males will weigh approximately 240 to 340 grams and the females approximately 170 to 270 grams at randomization.

6.6 Identification System:

Animals will be uniquely identified by a metal eartag displaying the animal number. Individual cage cards will be affixed to each cage and will display at least the animal number, group number, sex, and study number.

6.7 Justification for Selection and Number of Animals:

This species and strain of animal is recognized as appropriate for subchronic and chronic toxicity studies. The CrI:CD(SD) rat will be utilized because it is a widely used strain for which historical control data are available. The number of animals selected is the minimum needed to yield statistically and scientifically meaningful data.

7 SPECIFIC MAINTENANCE SCHEDULE:**7.1 Animal Housing:**

Animals will be housed individually in an environmentally controlled room in suspended, wire-mesh cages. The cages will be elevated above cage-board or other suitable material. The cages will be subject to routine cleaning at a frequency consistent with maintaining good animal health. The facilities at WIL Research Laboratories, LLC are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International).

7.2 Environmental Conditions:

Controls will be set to maintain temperature at $71 \pm 5^{\circ}\text{F}$ ($22 \pm 3^{\circ}\text{C}$) and relative humidity at approximately $50 \pm 20\%$. Temperature and relative humidity will be monitored continuously. Data for these two parameters will be scheduled for automatic collection on an hourly basis. Fluorescent lighting will provide illumination for a 12-hour light/dark photoperiod. Temporary adjustments to the light/dark cycles may be made to accommodate protocol specified activities. The ventilation rate will be set at a minimum of 10 room air changes per hour, 100% fresh air.

7.3 Drinking Water:

Reverse osmosis-treated tap water will be available *ad libitum*. Filters servicing the automatic watering system will be changed regularly according to standard operating procedures. The municipal water (Ashland City Water Department) supplying the laboratory will be analyzed for contaminants according to standard operating procedures to ascertain that none are present at concentrations that would be expected to affect the outcome of the study.

7.4 Diet:

PMI Nutrition International (Richmond, IN), LLC Certified Rodent LabDiet® 5002 (pellet) will be offered *ad libitum* during the study, except during overnight fasting prior to necropsy for all animals. Each lot utilized will be identified and recorded. Standard operating procedures provide specifications for acceptable levels of heavy metals and pesticides that are reasonably expected to be present in the diet without interfering with the purpose or conduct of the study. Each lot of feed has been analyzed to assure specifications are met. Feeders will be changed and sanitized once per week. Copies of the appropriate analyses will be maintained in the study records.

7.5 Enrichment:

Animals will be offered enrichment devices for the duration of the study as per WIL SOPs.

8 EXPERIMENTAL DESIGN:

8.1 Animal Receipt and Acclimation:

Each animal will be inspected by qualified personnel upon receipt. Animals judged to be in good health will be placed immediately in acclimation for at least 14 days. All animals will be weighed and assigned a permanent animal number. During the acclimation period, each animal will be observed twice daily for changes in general appearance or behavior.

The animals will be allowed a pretreatment week (during the acclimation period) at which time food consumption will be determined, eye exams will be performed, and general health will be monitored, but they will not receive the test substance. All animals will also be fitted with collars during the acclimation period. All animals will receive a detailed physical examination and body weight determination prior to the time of animal selection for randomization.

8.2 Randomization:

Near the end of the pretest period, animals judged to be suitable for testing will be assigned to groups at random based on body weight stratification into a block design using a computer program. A printout containing the animal numbers and individual group assignments will be generated. Animals will then be arranged into the groups according to the printout. Body weights at randomization will be within $\pm 20\%$ of the mean of each sex. Following randomization, it may be necessary to replace individual animals prior to or shortly after the initiation of dosing, based on the health status of the animals.

Replacement animals will be selected from remaining pretest animals and assigned arbitrarily. These instances will be appropriately documented in the study records.

8.3 Route and Rationale of Test Substance Administration:

The route of administration will be dermal for Groups 1-5 since the study objective is to determine the potential toxicity of the test substance when administered by the dermal route.

8.3.1 Organization of Test Groups:

The following table presents the study group arrangement. The dosage levels were selected by the Sponsor's Representatives.

Group Number	Test Substance	Dosage Level (mg/kg/day)	Dose Concentration (mg/mL)	Dose Volume (mL/kg)	Number of Animals ^c	
					Males	Females
1	Sham Control	NA	NA	NA	10	10
2	Vehicle ^a	0	0	1.5	10	10
3	Test Substance ^b	100	66.7	1.5	10	10
4	Test Substance ^b	300	200	1.5	10	10
5	Test Substance ^b	600	400	1.5	10	10

a) The vehicle used for Groups 2-5 in this study is mineral oil.

b) The test substance used for Groups 3-5 is ultra-low sulfur diesel fuel.

c) All surviving animals will be assigned to the scheduled necropsy on Study Day 89 or 90.

8.3.2 Sham Control:

The Group 1 sham control animals will be subject to the same procedures (i.e. shaving, collaring, sham dosing with glass rod and

removal of residual test substance) as animals in Groups 2-5. However, no vehicle or test substance will be applied to the sham control animals.

8.3.3 Adjustment of Dose Volumes:

Individual doses will be calculated based upon the most recent body weights to provide the proper dosage.

8.3.4 Justification of Dose Level:

The dosage levels for this study were selected by the Sponsor based upon dose range finding toxicity studies in rats. Doses were selected to cover a range extending from a minimal pharmacological dose level to a dose which is likely to show signs of toxicity.

8.3.5 Treatment Regimen:

A process of 5 days of dosing (Monday-Friday) followed by 2 days of nondosing (Saturday and Sunday) will be repeated for the duration of the study with the exception of the last week of dosing. Due to the staggered necropsy, the last week on study will require the dosing for half of each sex for all dose groups to occur on Monday-Friday and the dosing for the remaining half of each sex for all dose groups to occur on Tuesday-Saturday. By following this regimen, the second half of each sex will have 3 days of nondosing prior to the last week of dosing. The first half of each sex will be assigned to the scheduled necropsy on study day 89 and the second half of each sex will be assigned to the scheduled necropsy on study day 90. The vehicle or test substance will be administered dermally once daily, 5 days a week for a minimum 90-day treatment period (last dose to occur the day prior to the scheduled necropsy). Study Day 0 is the first day of dosing and Study Day 89 or 90 is the day of the scheduled necropsies. All animals will be collared during each 5-day dosing period. At the end of each dosing day, after an approximate 6 hour exposure period, all animals will be gently wiped with a paper towel to remove unabsorbed test substance. Following a 6-hour test substance exposure on the fifth day of dosing during each of the dosing periods, the residual test substance will be removed (as much as possible without introducing irritation of skin) by washing each animal with a warm, 1% mild soap (1% Ivory Liquid Soap in tap water) followed by a deionized water rinse and drying of the animals with a clean paper towel. Following each wash procedure, all animals will be transferred to clean cages and the collars removed for a 2-day non-dosing period. Prior to the first dose of the next 5-day dosing period, collars will be replaced on all animals. If the use of replacement animals

becomes necessary, these animals may receive fewer doses than specified.

8.3.6 Method of Administration and Dose Calculations:

Prior to dose administration, the back (down each side to the ventral surface) and flanks of each animal will be clipped free of hair using an electric clipper. Additional clipping throughout the study will be performed as necessary. Dosing sites will be marked with a permanent marker for animals and remarked as necessary for the duration of the study.

The vehicle and test substance formulations, adjusted as mL/kg per the most recent individual body weight, will be spread uniformly over the treatment site (target area of approximately 10% of the body surface area). The area covered by test substance will be measured and recorded once per week for a representative animal of each sex in each group whose body weight is close to the mean body weight and the resulting approximate % of body surface area covered will be reported. The vehicle and test substance formulations will be applied to each animal in Groups 2-5 (as appropriate) and spread over the area using a glass rod. The area will remain uncovered. Animals will be exposed for 5 consecutive days and collared for the duration of the exposure to prevent ingestion of the test substance. At the end of the 5-day exposure period, the exposure site will be cleaned to remove residual test substance (as much as possible without introducing irritation of skin) and the collars removed. The collars will be replaced after the 2-day nondosing period prior to the next exposure period with the exception of the last week of dosing (see Section 9.3.5).

8.3.7 Removal of Test Substance:

Residual test material will be gently removed (as much as possible without introducing irritation of skin) from animals following the 5-day exposure period using warm water and mild soap (1% Ivory Liquid Soap in tap water). The site will be rinsed with deionized water and gently patted dry and animals will be placed in clean caging.

8.4 Preparation and Analysis of Test Substance Formulations:

8.4.1 Method and Frequency of Preparation:

The test substance will be prepared for dosing as a weight-to-volume mixture in mineral oil. The dosing formulations will be prepared approximately weekly. A complete and detailed description of the

methods of test substance preparation will be included in the study records and described in the final report.

8.4.2 Homogeneity, Resuspension Homogeneity, and Stability of Test Substance Formulations

Analyses to demonstrate homogeneity and resuspension homogeneity as well as 8-day room temperature stability for the range of concentrations to be used on this study will be conducted by the Analytical Chemistry Department at WIL Research Laboratories, LLC (WIL-402028, Bodle, Draft) prior to the initiation of dosing (if possible).

8.4.3 Concentration and Homogeneity Analysis

Two sets of duplicate samples will be collected from each test substance formulation, from preparations to be used on study week 0 (Top, Middle, and Bottom Strata), week 6 (middle stratum only), and week 12 (middle stratum only). Each sample will be collected using class A pipettes. One set of duplicate samples will be stored at room temperature as reserve samples and will be discarded upon the study director's approval of results. The other set of samples will be analyzed using a method validated by WIL Research Laboratories, LLC to confirm the concentration and homogeneity of the bulk test substance formulations.

An analytical chemistry report will be included as an appendix to the main report.

9 PARAMETERS TO BE EVALUATED:

9.1 Viability Observations:

All animals will be observed for mortality and moribundity twice daily, once in the morning and once in the afternoon. Moribund animals will be euthanized by CO₂ inhalation and necropsied as described in section 9.8.1.

9.2 Animals to Be Euthanized in Extremis:

All animals to be euthanized *in extremis* will have a body weight collected and undergo a final detailed physical observation prior to release for euthanasia and subsequent necropsy.

9.3 Clinical Observations:

9.3.1 Daily Observations:

A clinical examination will be performed on all animals prior to dosing and at approximately 1-2 hours post-dose. A single daily observation will be recorded on non-dosing days. Observations will include, but are not limited to, changes in the skin, fur, eyes and mucous membranes; respiratory, circulatory, autonomic and central nervous systems functions; somatomotor activity and behavior patterns. Findings or lack of findings noted at the clinical examination will be recorded for individual animals. Observations outside of the above-mentioned range will also be recorded for individual animals.

9.3.2 Detailed Physical Examinations:

A detailed physical examination will be conducted for all animals approximately once during the pretreatment period, and approximately once weekly during the study. All animals assigned to study will also receive a detailed physical examination on the days of the scheduled or unscheduled euthanasia. The animals will be removed from their home cages and placed in a standard arena for observations. Observations will be detailed and carefully recorded. Where appropriate an explicitly defined scoring system will be used if in the opinion of the Study Director, and with approval of the Sponsor, doing so increases the utility of the data. Signs noted shall include, but not be limited to, changes in skin, fur, eyes, mucous membranes, occurrence of secretions and excretions and autonomic activity (e.g., lacrimation, piloerection, pupil size, unusual respiratory pattern), changes in gait, posture and response to handling, as well as the presence of clonic or tonic movements, stereotypic behavior (e.g., excessive grooming, repetitive circling) or bizarre behavior (e.g., self-mutilation, walking backwards) will be recorded. The absence or presence of findings will be recorded for individual animals.

9.3.3 Dermal Observations:

Dermal scoring according to Appendix A will be conducted on all animals once during the pretreatment period at the end of each 5-day dosing period after approximately 1-2 hours following the removal (as much as possible without introducing irritation of skin) of residual test substance from the animal's back.

9.4 Individual Body Weights:

Individual body weights will be recorded for all animals approximately once weekly, beginning during pretest, for the duration of the study. A final fasted body weight will be recorded at the time of necropsy. **The terminal body weights are to be audited and reported to the Sponsor within 3 weeks of necropsy.**

9.5 Individual Food Consumption:

Individual food consumption will be recorded for all animals approximately once weekly, beginning during pretest, for the duration of the study.

9.6 Ophthalmology:

Ophthalmic examinations will be conducted by a board-certified veterinary ophthalmologist using an indirect ophthalmoscope and slit-lamp biomicroscope. Prior to examination, rats will be treated with an appropriate mydriatic agent. All animals will be examined prior to randomization and prior to the scheduled necropsy.

9.7 Clinical Pathology:

The following hematology, serum chemistry, and coagulation parameters will be evaluated on all surviving animals on the day of the scheduled necropsy. The animals will be fasted overnight before taking blood samples. Blood samples will be collected at necropsy from the vena cava of animals euthanized by isoflurane.

Anticoagulants used will be potassium EDTA for the hematology and sodium citrate for the coagulation tests. Samples for serum chemistry will be collected without anticoagulants.

9.7.1 Hematology:

Total leukocyte count	Mean corpuscular volume
Erythrocyte count	Mean corpuscular hemoglobin
Hemoglobin^b	Mean corpuscular hemoglobin concentration
Hematocrit	Platelet count^b
Hemoglobin distribution width	Reticulocyte count
Red cell distribution width	Differential leukocyte count ^a

a = If performed manually, results will include platelet estimates and RBC morphology.

b = Data for the designated (**bold**) hematology parameters are to be audited and reported to the sponsor within 3 weeks of necropsy.

9.7.2 Coagulation:

Prothrombin time	Activated partial thromboplastin Time

9.7.3 Serum Chemistry:

Albumin	Aspartate aminotransferase
Total protein	Gamma glutamyl transferase
Globulin (calculated)	Glucose
A/G ratio (calculated)	Total cholesterol
Total bilirubin	Calcium
Urea nitrogen	Chloride
Creatinine	Phosphorus
Alkaline phosphatase	Potassium
Alanine aminotransferase	Sodium
Sorbitol dehydrogenase	Triglycerides

9.8 Anatomic Pathology:**9.8.1 Macroscopic Examination:**

A complete necropsy examination will be conducted on all animals. Animals *in extremis* will be euthanized by CO₂ inhalation. Animals surviving to the scheduled necropsy will be euthanized via isoflurane following the clinical pathology blood collection by necropsy personnel. Necropsy will include examination of the external surface; all orifices; and the cranial, thoracic, abdominal and pelvic cavities including viscera. At the time of the scheduled necropsy, the following tissues will be collected and placed in 10% neutral-buffered formalin (or other fixative if applicable).

Adrenals (2)	Skin with Mammary gland ^d
Aorta	(females only)
Bone with marrow	Skeletal Muscle (Rectus Femoris)
Femur with joint ^a	Ovaries (2) with oviducts ^e
Sternum	Pancreas
Bone marrow smear	Peripheral nerve (sciatic)
(from sternum) ^a	Pituitary
Brain	Prostate
Cerebrum (2 levels)	Salivary glands [mandibular (2)]
Cerebellum with pons/medulla	Seminal vesicles (2)
Cervix	Skin
Exorbital lacrimal glands (2)	Sham, Vehicle and Treated (3
Eyes with optic nerves (2) ^b	sections)
Epididymides (2) ^c	Untreated (posterior to treated
Gastrointestinal tract	skin)
Esophagus	Spinal cord
Stomach	Cervical
Duodenum	Thoracic
Jejunum	Lumbar
Ileum	Spleen
Cecum	Testes (2) ^c
Colon	Thymus
Rectum	Thyroid with parathyroids (2) ^e
Heart	Trachea
Kidneys (2)	Urinary bladder
Liver (sections of two lobes)	Uterus
Lungs (including bronchi, fixed by	Vagina
inflation with fixative)	All gross lesions
Lymph nodes [Axillary (2),	
mesenteric and mandibular(2)]	

a= Not taken from animals found dead; not placed in formalin; to be examined only if scientifically warranted.

b= To be placed in Davidson's solution.

c= To be placed in Bouin's solution.

d= For females; A corresponding section of skin will be collected from the same anatomical area for males.

e= Parathyroids and oviducts will be examined histopathologically if in the plane of section and in all cases where a gross lesion is present.

9.8.2 Organ Weights:

The following organs will be weighed at the scheduled necropsy:

Adrenals (2)	Pituitary gland
Brain	Prostate
Epididymides (2)	Spleen
Heart	Testes (2)
Kidneys (2)	Thymus
Liver	Thyroid with parathyroids (2)*
Ovaries (2)with oviducts	Uterus

Paired organs will be weighed together. Designated (*) organs will be weighed after fixation. Organ-to-body-weight and organ-to-brain-weight ratios will be calculated from animals euthanized at the scheduled necropsy. Data for the designated (**bold**) organs are to be audited and reported to the Sponsor within 3 weeks of necropsy.

9.8.3 Microscopic Examination:

Microscopic examination of hematoxylin-eosin stained paraffin sections will be conducted on all tissues listed in section 9.8.1 from all animals euthanized *in extremis*, found dead, or surviving to the scheduled necropsy, except for the female mammary gland, spinal cord, muscle, eyes, femur, and exorbital lacrimal glands, unless these tissues are noted as a potential target organ.

Histologic preparation will be conducted at either the WIL laboratory site in Ashland, Ohio, or at the WIL Research Laboratories subsidiary, Biotechnics, in Hillsborough, North, Carolina, and documented in the raw data. If the tissues are shipped to North Carolina, an appropriate protocol amendment will be issued prior to such shipment.

10 STATISTICAL METHODS:

All analyses will be two-tailed for significance levels of 5% and 1%. All means will be presented with standard deviations. All statistical tests will be performed using appropriate computing devices or programs. Body weights, body weight changes, and food consumption data, for the vehicle group (Group 2) and all test article treated groups (Groups 3-5) will be subjected to a one way analysis of variance (ANOVA) (Snedecor and Cochran, 1980). In addition, a comparison of the vehicle group (Group 2) to each treated group (Groups 3-5) by Dunnett's test (Dunnett, 1964) will follow.

Body weights, body weight changes, and food consumption data, for the sham control data will be compared to the vehicle control using a separate parametric one-way

analysis of variance (ANOVA) (Snedecor and Cochran, 1980). Statistical significance will be assessed at a 95% confidence level ($p \leq 0.05$).

Clinical pathology data and organ weights (absolute and relative) for the vehicle group (Group 2) and all test article treated groups (Groups 3-5) will be subjected to a one way analysis of variance (ANOVA) (Snedecor and Cochran, 1980). In addition, a comparison of the vehicle group (Group 2) to each treated group (Groups 3-5) by Dunnett's test (Dunnett, 1964) will follow.

Clinical pathology data and organ weights (absolute and relative) for the sham control will be compared to the vehicle control using a separate parametric one-way analysis of variance (ANOVA) (Snedecor and Cochran, 1980). Statistical significance will be assessed at a 95% confidence level ($p \leq 0.05$).

Gamma glutamyltransferase values under range will be assigned a value of 0.1 (half the lower limit of quantitation) for statistical analysis and reporting. Gamma glutamyltransferase data will be subjected to the Kruskal-Wallis nonparametric ANOVA test (Kruskal and Wallis, 1952) to determine the intergroup differences. If the ANOVA reveals statistically significant ($p < 0.05$) intergroup variance, Dunn's test (Dunn, 1964) will be used to compare the test article-treated groups to the vehicle control group. In addition, the sham control and vehicle control groups will be compared using a separate Kruskal-Wallis nonparametric ANOVA test (Kruskal and Wallis, 1952).

11 QUALITY ASSURANCE:

The study will be audited by the WIL Quality Assurance Unit while in progress to assure compliance with EPA TSCA GLP and OECD Good Laboratory Practice Regulations, adherence to the protocol and to WIL standard operating procedures. The raw data and draft report will be audited by the WIL Quality Assurance Unit to assure that the final report accurately describes the conduct and the findings of the study.

This study is a regulated study and will be included on the WIL master list of regulated studies

12 RECORDS TO BE MAINTAINED:

All original raw data records, as defined by WIL SOPs will be stored in Archives at WIL Research Laboratories, LLC as described in protocol Section 13.

13 WORK PRODUCT:

Sponsor will have title to all documentation records, raw data, slides, specimens, or other work products generated during the performance of the study. All work products including raw paper data, pertinent electronic storage media and specimens

will be retained at no charge for a period of 6 months following issuance of the final report in the Archives at WIL Research Laboratories, LLC. Thereafter, WIL Research Laboratories will charge a monthly archiving fee for retention of all work products. All work products will be stored in compliance with regulatory requirements. Unless otherwise indicated, all remaining clinical pathology samples will not be archived, but will be discarded at the time of report finalization.

Any work product, including documents, specimens, and samples, that are required by this protocol, its amendments, or other written instructions of the Sponsor, to be shipped by WIL Research Laboratories, LLC to another location will be appropriately packaged and labeled as defined by WIL's SOPs and delivered to a common carrier for shipment. WIL Research Laboratories, LLC will not be responsible for shipment following delivery to the common carrier.

14 REPORTS:

Within three weeks of necropsy, the following data will be audited by Quality Assurance:

- Terminal body weight
- Absolute and relative liver weight
- Absolute thymus weight
- Hemoglobin levels
- Platelet counts

A brief report including the data with explanation and interpretation will be prepared and sent to the study monitor or sponsor representative.

The final report will contain a summary, test substance data, methods and procedures, appropriate individual animal and summary data tables, supporting sub-reports (e.g., analytical chemistry report) a copy of the protocol and amendments (if any), and an interpretation and discussion of the study results. Data interpretation and data tables from the Principal Investigator reports will be included within the text of the WIL report, as appropriate. The report will contain all information necessary to conform to current EPA and OECD specifications. The report will be comprehensive and shall attempt to define levels inducing toxic effects under the conditions of this investigation.

WIL Research Laboratories, LLC will submit an electronic copy (PDF with an MS Word copy of the report text for editing and comments) of the audited draft report in a timely manner upon completion of data collection prior to issuance of the final report. It is expected that the Sponsor will review the draft report and provide comments to WIL within a two-month time frame following submission. Within one month following receipt of the Sponsor's comments, WIL shall provide a revised draft report that incorporates the Sponsor's reasonable revisions and suggestions. One revision

will be permitted as part of the cost of the study. WIL shall submit the final report within two weeks of receiving authorization from the Sponsor. If the Sponsor's comments and/or authorization to finalize the report have not been received at WIL within one year following submission of the draft report, WIL may elect to finalize the report following appropriate written notification to the Sponsor. Two submission ready electronic versions (linked, searchable PDF) of the final report on CD-R will be provided as well as a copy of the report text in MS Word.

15 PROTOCOL MODIFICATION:

Modification of the protocol may be accomplished during the course of this investigation. However, no changes will be made in the study design without the verbal or written permission of the Sponsor Representative. In the event that the Sponsor verbally requests or approves changes in the protocol, documentation will be maintained as e-mail or other suitable correspondence, and may be communicated to WIL Research Laboratory staff in the form of Study Director Notifications, as appropriate.

16 ANIMAL WELFARE ACT COMPLIANCE:

This study will comply with all applicable sections of the Final Rules of the Animal Welfare Act regulations (9 CFR). The Sponsor should make particular note of the following:

- The Sponsor signature on this protocol documents for the Study Director the Sponsor's assurance that the study described does not unnecessarily duplicate previous experiments
- Whenever possible, procedures used in this study have been designed to avoid or minimize discomfort, distress or pain to animals. All methods are described in this study protocol or in written laboratory standard operating procedures.
- Animals that experience severe or chronic pain or distress that cannot be relieved will be painlessly euthanized, as deemed appropriate by the veterinary staff and Study Director. The Sponsor will be advised by the Study Director of all circumstances which could lead to this action, in as timely a manner as possible.
- Methods of euthanasia used during this study are in conformance with the above-referenced regulation.
- The sponsor/study director has considered alternatives to procedures that may cause more than momentary or slight pain or distress to the animals and has provided a written narrative description (AWA covered species) of the methods and sources used to determine that alternatives are not available.

17 REFERENCES:

Dunnett, C.W. New tables for multiple comparisons with a control. *Biometrics* **1964**, 20, 482-491.

Dunn, O.J. Multiple comparisons using rank sums. *Technometrics* **1964**, 6(3), 241-252.

Bodle, E.S. Analytical Validation and Stability Study of Ultra-Low Sulfur Diesel in Mineral Oil Formulations (Study No. WIL-402028), WIL Research Laboratories, LLC, Ashland, OH, Draft.

Kruskal, W.H.; Wallis, W.A. Use of ranks in one-criterion variance analysis. *Journal of the American Statistical Association* **1952**, 47, 583-621.

Snedecor, G.W.; Cochran, W.G. One Way Classifications; Analysis of Variance. In *Statistical Methods*, 7th ed.; The Iowa State University Press: Ames, IA, **1980**; pp 215-237.

18 PROTOCOL APPROVAL:

Sponsor approval received via e-mail on 4/25/11
Date

American Petroleum Institute

Russell White
Russell White
Sponsor Representative

25 April 2011
Date

WIL Research Laboratories, LLC

Angela S. Burke
Angela S. Burke, PhD
Study Director

25 April 2011
Date

Jozef L. W. Mertens
Jozef L. W. Mertens, PhD, DABT
Senior Director, General Toxicology

25 Apr 2011
Date

APPENDIX A**SCORING CRITERIA FOR DERMAL REACTIONS****Evaluation of Dermal Reactions***

<u>Value</u>	<u>Erythema and Eschar Formation</u>	<u>Computer Designation</u>
0	No erythema	No erythema
1	Very slight erythema (barely perceptible, edges of area not well defined)	Very slight erythema
2	Slight erythema (pale red in color and edges definable)	Slight erythema
3	Moderate to severe erythema (definite red in color and area well defined)	Moderate erythema
4	Severe erythema (beet or crimson red) to slight eschar formation (injuries in depth)	Severe erythema
	<u>Edema Formation</u>	<u>Computer Designation</u>
0	No edema	No edema
1	Very slight edema (barely perceptible, edges of area not well defined)	Very slight edema
2	Slight edema (edges of area well defined by definite raising)	Slight edema
3	Moderate edema (raised approximately 1 mm)	Moderate edema
4	Severe edema (raised more than 1 mm and extending beyond area of exposure)	Severe edema

*Draize, J. H., 1965. The Appraisal of the Safety of Chemicals in Foods, Drugs and Cosmetics. Dermal Toxicity, pp. 46-59. Assoc. of Food and Drug Officials of the U.S., Topeka, Kansas.

APPENDIX B

Test Substance Characterization (Sponsor-Provided Data)



Deer Park Technical Center Laboratory
1114 Seaco Avenue
Deer Park, Texas 77536
USA
Tel: (713) 844-3200

Report of Analysis

Job Reference:US785-0015767
Job Location:Deer Park, TX, USA

Date Job Created:12-Nov-2008
Job Description:Handblend & Analysis of ULSD at Deer Park, TX, USA on
12 November, 2008

Client:American Petroleum Institute (API)
Contact:Paula Podhasky
Address:1220 L Street NW
Washington, DC 20005-4070
United States of America

Customer Reference:
CONTRACT: 2008103518

Sample Summary

Sample Number	Date Completed	Description
2008-DRPK-007144-008	12-Nov-2008	Site 1-7 Blend
2008-DRPK-007144-014	14-Nov-2008	Site 1-7 Blend



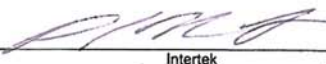
Report of Analysis

Sample ID:2008-DRPK-007144-008		Date Taken:12-November-2008
Drawn By:Client		Date Submitted:12-November-2008
Sample Designated As:ULSD		Date Tested:12-November-2008
Representing:Site 1-7 Blend		

Method	Test	Result	Units
ASTM D4052	Density of Liquids by Digital Density Meter		
	Density @ 15°C/59°F	0.8469	g/mL
	Relative Density @ 60/60°F	0.8465	
	API Gravity @ 60°F	35.5	*API

Sample ID:2008-DRPK-007144-014		Date Taken:12-November-2008
Drawn By:Client		Date Submitted:12-November-2008
Sample Designated As:ULSD		Date Tested:14-November-2008
Representing:Site 1-7 Blend		

Method	Test	Result	Units
ASTM D2887	Boiling Range Distribution of Petroleum Fractions by GC (Simulated Distillation)	See Attached Report	
	Boiling Point Distribution		
ASTM D4052	Density of Liquids by Digital Density Meter		
	Density @ 15°C/59°F	0.8469	g/mL
	Relative Density @ 60/60°F	0.8465	
	API Gravity @ 60°F	35.5	*API
ASTM D445	Kinematic / Dynamic Viscosity		
	Test Temperature	104 °F	
	Kinematic Viscosity @ 104 degF / 40 degC	2.646	cSt
ASTM D1319	Hydrocarbon Types (Aromatics, Olefins, Saturates) by FIA		
	Aromatics	23.7	Vol %
	Olefins	1.7	Vol %
	Saturates	74.6	Vol %
ASTM D5453	Sulfur Content by UV Fluorescence		
	Sulfur Content	5.2	mg/kg
ASTM D5186	Determination of Aromatic Content and Polynuclear Aromatic Content of Diesel Fuels and Aviation Turbine Fuels by Supercritical Fluid Chromatography		
	Monoaromatics by SFC	21.8	Wt %
	Polynuclear Aromatics by SFC	4.6	Wt %
	Total Aromatics	26.4	Wt %

Signed:  Intertek

Date: 12/16/08

Simdist-2000
ITS Caleb Brett - Houston

SAMPLE:	SM-08-7144-14	Injection Date:	0081112180124-0600
	HPV Diesel Composite	Report Date:	11/13/08 4:22
FILE:	C:\CP32 Instruments\D2887 & D3710\Data\2008\NOV-08\SM-08-7144-14.0007.CDF		
PROCEDURE:	C:\CP32 Instruments\D2887 & D3710\PROCEDURES\102108-D2887.prc		
EXCEL FILE:	C:\CP32 Instruments\D2887 & D3710\Reports\2008\NOV-08\SM-08-7144-14_0007_CDF.xls		

Boiling Point Distribution Report

ASTM D2887 Simulated Distillation

%Off	BP °F	BP °C	%Off	BP °F	BP °C	%Off	BP °F	BP °C
IBP	267.1	130.6	40%	478.0	247.8	80%	597.6	314.2
1%	282.3	139.1	41%	481.3	249.6	81%	601.7	316.5
2%	307.5	153.1	42%	483.9	251.0	82%	603.9	317.7
3%	321.9	161.1	43%	487.1	252.8	83%	606.8	319.4
4%	332.4	166.9	44%	489.5	254.2	84%	611.7	322.1
5%	340.9	171.6	45%	491.1	255.1	85%	616.4	324.7
6%	346.8	174.9	46%	493.7	256.5	86%	621.7	327.6
7%	355.0	179.4	47%	497.0	258.3	87%	627.1	330.6
8%	359.5	182.0	48%	500.7	260.4	88%	630.1	332.3
9%	363.7	184.3	49%	503.6	262.0	89%	636.6	335.9
10%	369.9	187.7	50%	506.8	263.8	90%	643.2	339.6
11%	375.5	190.8	51%	509.8	265.4	91%	650.7	343.7
12%	380.1	193.4	52%	512.1	266.7	92%	655.5	346.4
13%	384.2	195.6	53%	515.5	268.6	93%	664.9	351.6
14%	387.0	197.2	54%	518.9	270.5	94%	674.5	356.9
15%	391.7	199.8	55%	521.2	271.8	95%	683.5	362.0
16%	395.5	201.9	56%	522.6	272.6	96%	696.7	369.3
17%	398.9	203.8	57%	525.4	274.1	97%	711.1	377.3
18%	403.3	206.3	58%	528.7	275.9	98%	731.8	388.8
19%	407.7	208.7	59%	532.3	277.9	99%	764.7	407.0
20%	411.2	210.7	60%	535.6	279.8	FBP	796.5	424.7
21%	415.3	212.9	61%	538.7	281.5			
22%	419.0	215.0	62%	541.8	283.2			
23%	422.3	216.8	63%	545.4	285.2			
24%	425.5	218.6	64%	549.0	287.2			
25%	428.8	220.5	65%	550.9	288.3			
26%	432.4	222.4	66%	552.8	289.3			
27%	435.3	224.1	67%	556.5	291.4			
28%	439.4	226.3	68%	560.3	293.5			
29%	442.4	228.0	69%	563.6	295.3			
30%	445.8	229.9	70%	566.0	296.7			
31%	449.3	231.8	71%	569.0	298.3			
32%	452.2	233.4	72%	572.9	300.5			
33%	455.1	235.0	73%	576.4	302.4			
34%	457.2	236.2	74%	578.1	303.4			
35%	460.4	238.0	75%	579.7	304.3			
36%	464.0	240.0	76%	582.2	305.6			
37%	468.0	242.2	77%	586.1	307.9			
38%	471.9	244.4	78%	590.0	310.0			
39%	475.2	246.2	79%	593.5	311.9			

Start Elution Time (mins):	0.137	Sample Wt:	0 g
End Elution Time (mins):	17.091	Solvent Wt:	0 g
		Material Balance:	100.0 wt%
Blank File:	C:\CP32 Instruments\D2887 & D3710\Data\2008\NOV-08\CS2-BLK2-111208.0002.CDF		
Calib File:	D:\CP32 Instruments\D2887 & D3710\DATA\RTMIX-060905.0006.CDF		
Resp Factor:	1.000E+00		

PORT ROYAL RESEARCH, LLC

Final Report
PTI Study No. 2008-1201
December 12, 2008

CHARACTERIZATION AND QUANTITATION OF
POLYNUCLEAR AROMATIC COMPOUNDS (PAC) IN AN
HPV CBI BLENDED ULSD (BARCODE # 187840) BY PRR
("MOBIL" METHOD 2) PAC

Sponsor: American Petroleum Institute

CHARACTERIZATION AND QUANTITATION OF POLYNUCLEAR AROMATIC
COMPOUNDS (PAC) IN AN HPV CBI BLENDED ULSD (BARCODE # 187840) BY
PRR ("MOBIL" METHOD 2) PAC

STUDY NO.: 2008-1201

MATERIAL TESTED: HPV CBI Blended ULSD (Barcode # 187840)

CRU SAMPLE NO.: 120801

REQUESTER: American Petroleum Institute
1220 L Street, NW
Washington, DC 2005-4070

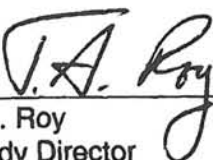
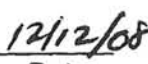
LIAISON: T. A. Roy

STUDY PERFORMED BY: Port Royal Research, LLC¹
61 S. Port Royal Drive
Hilton Head, SC 29928

EXPERIMENTAL START DATE: December 11, 2008

EXPERIMENTAL TERMINATION DATE: December 11, 2008

¹ Doing business as (dba) PRR

 
T.A. Roy Date
Study Director

DISTRIBUTION

Study Director
API Liaison (original)

T.A. Roy
P. Podhasky

RESULTS**PRR ("MOBIL" METHOD 2) PAC**

The polynuclear aromatics (PAC) were isolated by following PRR Standard Operating Procedure No. A.3.1. The total weight percent PAC and the group percentages of the total Wt.% are as follows:

TABLE I

sample identification	total Wt. %	Group Percentages of total Wt. % ^a						
		I	II	III	IV	V	VI	≥VII
HPV CBI Blended ULSD (barcode # 187840)	2.8	3	80	20	1	0	0	0

^a Group percentages are reported to one significant figure where groups I through VII represent benzenes and two-through seven-fused ring aromatics, respectively.

Table II below reports these same results as the weight percent of the total in each ring group:

TABLE II

sample identification	total Wt. %	Group Wt%						
		I	II	III	IV	V	VI	≥VII
HPV CBI Blended ULSD (barcode # 187840)	2.8	0.084	2.24	0.56	0.03	0.00	0.00	0.00

APPENDIX C

Analyses of Dosing Formulations (WIL Research Laboratories, LLC)

A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing
Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Analyses of Dosing Formulations

Analytical Chemistry Department
WIL Research Laboratories, LLC



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1. SUMMARY

A gas chromatography method using mass spectrometric detection with electron impact ionization for the determination of Ultra-Low Sulfur Diesel (ULSD) concentration in formulations containing mineral oil and test substance ranging in concentration from 49.4 to 502 mg/mL was validated in a previous study (Bodle, 2012, WIL-402028). In the present study, test substance homogeneity/concentration acceptability was assessed in formulations prepared at target concentrations of 66.7, 200, and 400 mg ULSD/mL. In addition, formulations used for dose administration were analyzed to verify test substance concentration acceptability.

The results of the test substance homogeneity/concentration acceptability assessment in formulations prepared at target concentrations of 66.7, 200, and 400 mg ULSD/mL met the WIL Research SOP acceptance criteria, *i.e.*, the RSD for the mean concentration was $\leq 10\%$ at a concentration within the acceptable limits (85% to 115% of target).

The analyzed formulations used for dose administration met the WIL Research SOP requirement for concentration acceptability for suspension formulations, *i.e.*, the analyzed concentration was 85% to 115% of the target concentration. No test article was detected in the analyzed vehicle administered to the control group.

2. INTRODUCTION

This report provides a detailed description of a gas chromatography (GC) method using mass spectrometric detection (MS) with electron impact ionization for the determination of Ultra-Low Sulfur Diesel (ULSD) concentration in formulations containing mineral oil and test substance ranging in concentration from 49.4 to 502 mg/mL. The method was validated in a previous study (Bodle, 2012, WIL-402028) where assay specificity/selectivity, calibration reproducibility, precision, accuracy, ruggedness, and test substance stability in calibration standards and processed quality control (QC) samples stored at room temperature for 8 days were assessed. In the present study, formulations prepared at target concentrations of 66.7, 200, and 400 mg ULSD/mL were

analyzed to assess test substance homogeneity/concentration acceptability. In addition, formulations used for dose administration were analyzed to verify test substance concentration acceptability.

A list of abbreviations potentially used in this report is presented in Section 8. (Abbreviations).

2.1. KEY STUDY DATES

<u>Date(s)</u>	<u>Event(s)</u>
6 May 2011	First date of analysis
30 July 2011	Last date of analysis

2.2. WIL RESEARCH KEY STUDY PERSONNEL

Robert E. Boes, MS	Associate Research Chemist, Analytical Chemistry
Stephen F. Farris, Jr., BS	Chemist III, Analytical Chemistry
Chad P. Durastanti, BS	Publishing Specialist, Reporting & Technical Support Services
Melissa A. Hull, BS	Group Manager, Reporting & Technical Support Services

3. EXPERIMENTAL PROCEDURES - MATERIALS AND METHODS

3.1. GAS CHROMATOGRAPHY

Column:	Zebron ZB-1HT Inferno 15 m × 0.32 mm, 0.25-μm film-thickness
Temperature Program:	Initial temperature 50°C, hold for 1.0 minute Ramp 40°C/minute to 300°C, hold for 5.0 minutes
Column Pressure:	5.0 psi
Carrier Gas:	Helium
Injector Temperature:	280°C
Sample Introduction:	Solid Phase Micro Extraction 100 μm PDMS fiber
Retention Time:	Approximately 2.0 to 4.0 minutes for ULSD peak group
Run Time:	12.25 minutes

3.2. SAMPLE INTRODUCTION PARAMETERS

Agitator Temperature:	60.0°C
Incubation Time:	10 minutes
Agitator Speed:	750 rpm
Agitation Cycle:	2 seconds on, 4 seconds off
Extraction Time:	2 minutes
Desorbition Time:	1 minute

3.3. MASS SPECTROMETRY

Acquisition Parameters

Mode:	Scan (140 amu to 165 amu)
Solvent Delay:	1 minute
Ion Source:	Electron impact
Transfer Line Temperature:	280°C
Ion Trap:	210°C
Manifold Temperature:	60°C

Analyte	Quantitation Mass (amu)
ULSD	145.7

3.4. PREPARATION OF CALIBRATION STANDARDS

Calibration standards with a concentration range of 10.0 to 100 µg ULSD/mL were prepared by diluting aliquots of the ULSD (WIL log no. 8472A, density 837 mg ULSD/mL) with mineral oil in headspace vials. Each headspace vial had a total sample volume of 1 mL. At least single calibration standards at each concentration were prepared for routine analysis.

3.5. PREPARATION OF QUALITY CONTROL SAMPLES

As detailed in the following table, QC samples were prepared to simulate the processing of formulations at concentrations of 49.4, 100, and 502 mg ULSD/mL (nominal QC concentrations) by combining aliquots of ULSD (WIL log no 8472A, density 837 mg ULSD/mL) and vehicle (mineral oil) in headspace vials or polypropylene tubes. The processed samples were mixed with vortex action. Samples were further diluted as necessary with mineral oil. The samples were transferred to a headspace vial for analysis. Each headspace vial had a total sample volume of 1 mL. The QC samples were prepared in triplicate at each concentration; a single vehicle blank sample was prepared.

QC Level	Nominal QC Concentration (mg/mL)	Vehicle Volume (mL)	ULSD Density (mg/mL)	ULSD Volume (mL)	Dilution	Theoretical Final Concentration (mg/mL)
Blank	0	1.00	837	0	NA	0
QC1	49.4	0.941	837	0.059	NA	49.4
QC2	100	0.880	837	0.120	2-fold	50.2
QC3	502	0.400	837	0.600	10-fold	50.2

NA = Not applicable

3.6. FORMULATION SAMPLE COLLECTION AND PROCESSING

Quadruplicate samples were collected using a syringe and dosing cannula and transferred to headspace vials or polypropylene tubes. Two samples from each quadruplicate set were processed for analysis, and the remaining 2 samples (back-up samples) were stored at room temperature, protected from light, and if not needed for analysis, discarded after receipt of the Study Director's approval of analytical results. As indicated in the following table, formulation samples were processed by diluting as necessary with mineral oil and mixing with vortex action. The samples were transferred to a headspace vial for analysis. Each headspace vial had a total sample volume of 1 mL.

Dose Group	Target Test Substance Concentration (mg/mL)	Sample Volume (mL)	Dilution	Theoretical Final Concentration (mg/mL)
2	0	1.0	NA	0
3	66.7	1.0	NA	66.7
4	200	1.0	4-fold	50.0
5	400	1.0	8-fold	50.0

NA = Not applicable

3.7. CALIBRATION AND QUANTITATION

Single injections were made of each calibration standard, processed QC, and formulation sample. A calibration curve was constructed for each set of analyses. The Ultra-Low Sulfur Diesel peak areas (y) and the theoretical concentrations (x) of the calibration standards were fit with least-squares regression analysis to the quadratic function:

$$y = ax^2 + bx + c$$

Concentrations were calculated from the results of the regression analysis using Microsoft Excel®. The concentration data were transferred to another Microsoft Excel® spreadsheet, where appropriate summary statistics, *i.e.*, mean, standard deviation (SD), relative standard deviation (RSD), and concentration as a percent of target concentration, were calculated and presented in tabular form. The concentrations of QC and formulation samples were calculated by applying any necessary factors to correct for sample dilution or unit conversion.

4. RESULTS AND DISCUSSION

Under the described chromatographic conditions, the retention time of the test substance peak group was approximately 2.0 to 4.0 minutes. Figure 1, Figure 2, Figure 3, and Figure 4 are typical chromatograms of a calibration standard, a processed QC sample, a processed formulation sample, and a processed control group formulation sample, respectively. The total analysis time required for each run was 12.25 minutes.

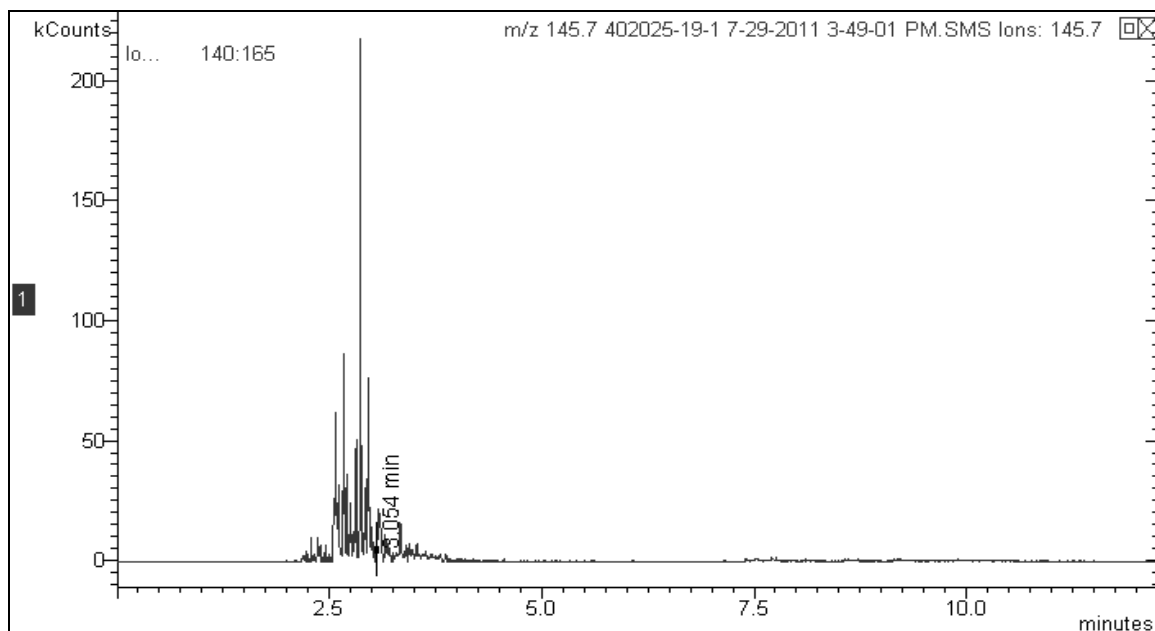


Figure 1: Representative Chromatogram of a 10.0 mg ULSD/mL Calibration Standard

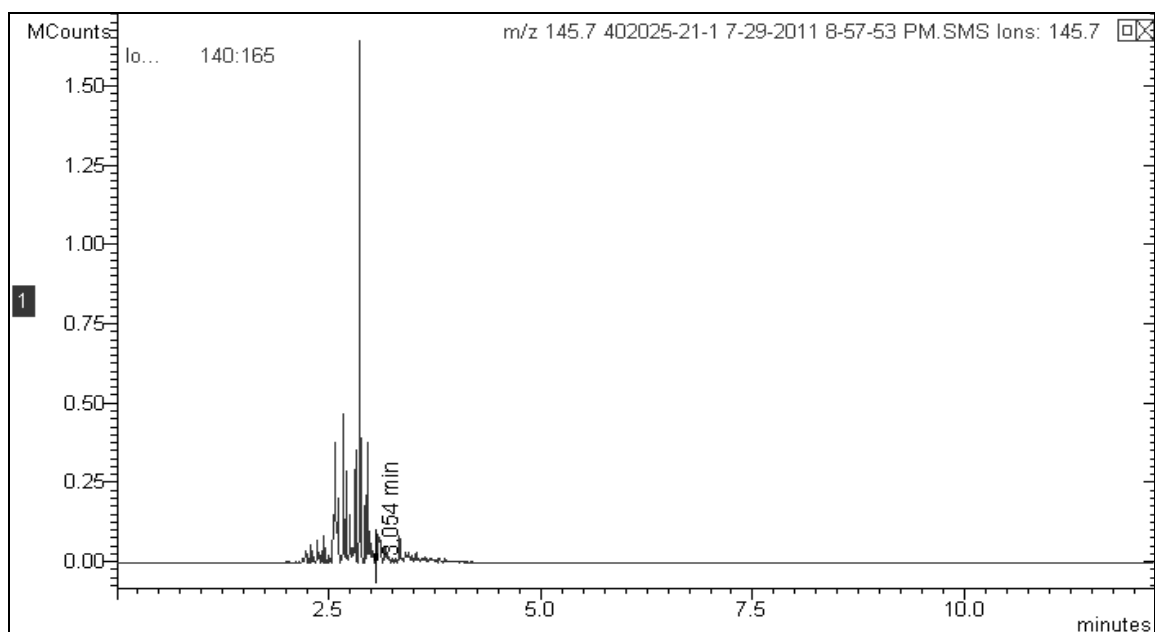


Figure 2: Representative Chromatogram of a Processed 100 mg ULSD/mL Quality Control Sample

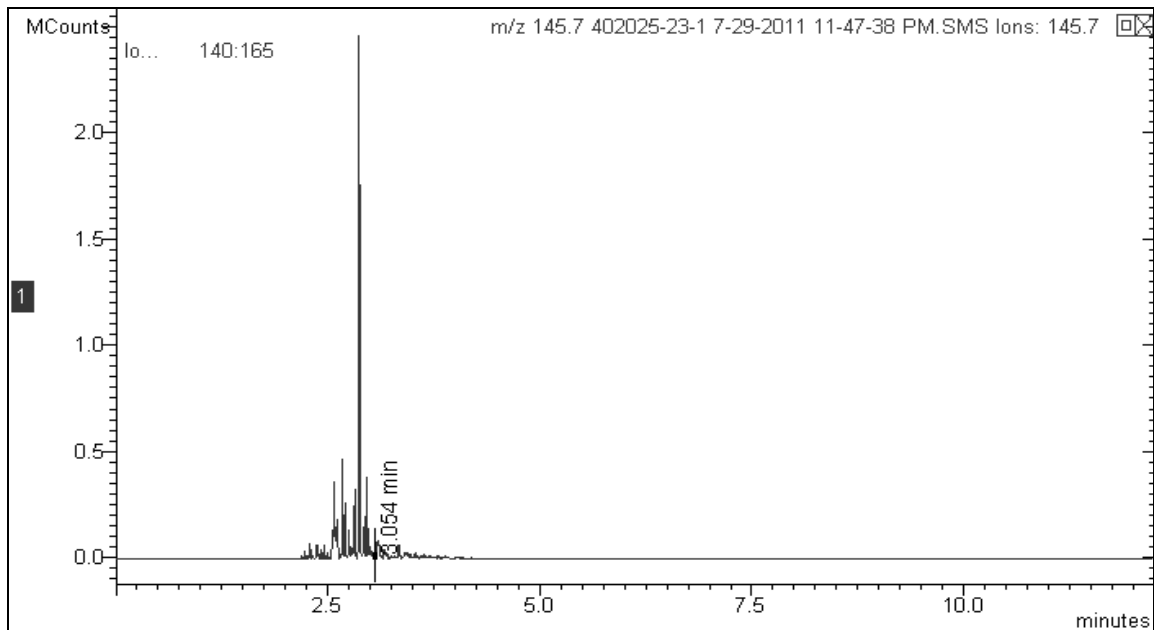


Figure 3: Representative Chromatogram of a Processed 200 mg ULSD/mL Formulation Sample

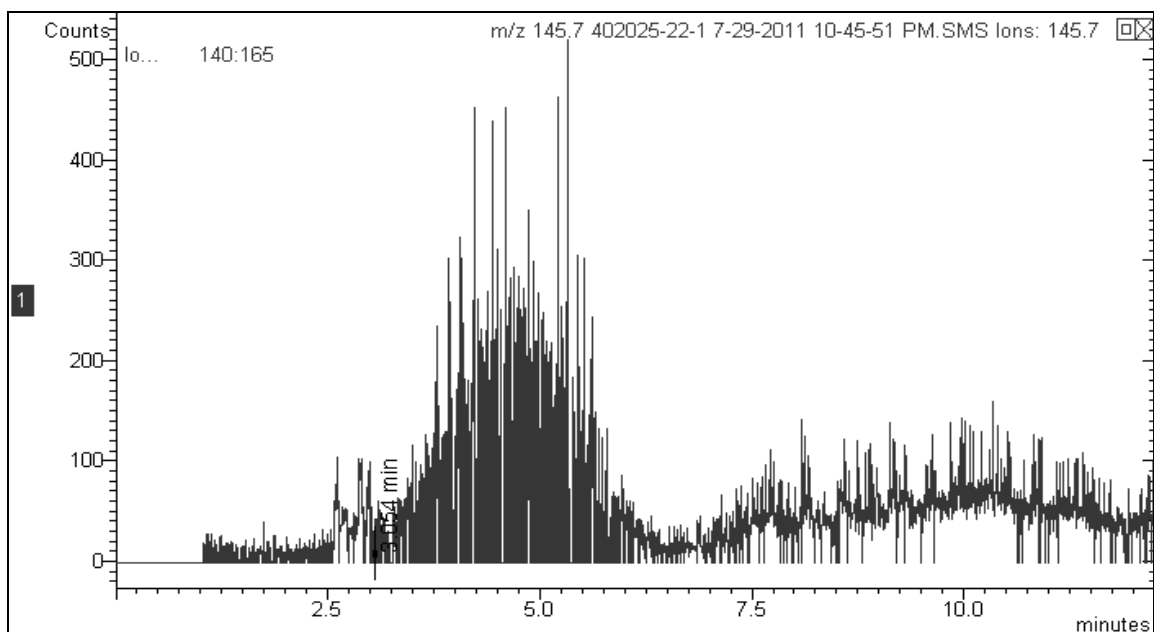


Figure 4: Chromatogram of a Processed Control Group Formulation Sample

4.1. SPECIFICITY/SELECTIVITY

As shown in Figure 4 (and in contrast to the chromatograms shown in Figure 1, Figure 2, and Figure 3), assay specificity/selectivity was confirmed when GC/MS analysis of processed vehicle sample revealed that there were no significant peaks at or near the retention time for the test substance peak group (approximately 2.0 to 4.0 minutes).

4.2. ASSAY ACCEPTABILITY

In addition to the experimental samples, each analytical session consisted of (but was not limited to) calibration standards at 5 concentrations and triplicate QC samples prepared at each of 3 concentrations. In this study, the formulations were prepared at target concentrations of 66.7, 200, and 400 mg ULSD/mL, and the QC samples were prepared at nominal concentrations of 49.4, 100, and 502 mg ULSD/mL. For an analytical session to be considered valid, at least two-thirds of the calculated QC concentrations with at least 1 sample at each concentration had to be 85% to 115% of the nominal QC concentration. All reported results were from analytical sessions that met the acceptance criteria.

4.3. TEST SUBSTANCE HOMOGENEITY/CONCENTRATION ASSESSMENT OF FORMULATIONS

Duplicate samples from the top, middle, and bottom strata of the formulations prepared on 6 May 2011 at target test substance concentrations of 66.7, 200, and 400 mg /mL were analyzed to assess test substance homogeneity/concentration acceptability. Duplicate samples from the blank vehicle were also collected and analyzed. The results of the homogeneity/concentration analysis are presented in Table 1, with the overall statistics summarized as follows:

Homogeneity/Concentration Assessment of the 6 May 2011 Formulations				
	Group 2 (0.0 mg/mL)	Group 3 (66.7 mg/mL)	Group 4 (200 mg/mL)	Group 5 (400 mg/mL)
Mean Concentration (mg/mL)	ND	64.9	193	391
SD	NA	5.0	11	25
RSD (%)	NA	7.7	5.6	6.5
Mean Concentration % of Target	NA	97.3	96.4	97.8

ND = No test substance chromatographic peak detected

NA = Not applicable

The homogeneity/concentration acceptability assessment of the 6 May 2011 formulations met the WIL Research SOP requirement, *i.e.*, the RSD for the mean concentration was $\leq 10\%$ at a concentration within the acceptable limits (within 85% to 115% of target concentration). No test article was detected in the analyzed vehicle administered to the control group (Group 2).

4.4. TEST SUBSTANCE CONCENTRATION IN FORMULATIONS

Formulations used for dose administration were analyzed to assess test substance concentration acceptability. The results of the concentration acceptability assessment are presented in Table 2 and Table 3, with the mean concentration and percent of target values summarized in the following table.

Date of Preparation	Mean Concentration, mg/mL (% of Target)			
	Group 2 (0.0 mg/mL)	Group 3 (66.7 mg/mL)	Group 4 (200 mg/mL)	Group 5 (400 mg/mL)
17 June 2011	ND	62.0 (92.9)	177 (88.3)	365 (91.3)
29 July 2011	ND	59.6 (89.4)	170 (85.0)	342 (85.5)

ND = No test substance chromatographic peak detected

The analyzed formulations used for dose administration met the WIL Research SOP requirement for concentration acceptability for suspension formulations, *i.e.*, the analyzed

concentration was 85% to 115% of the target concentration. No test article was detected in the analyzed vehicle administered to the control group (Group 2).

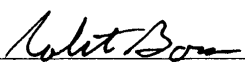
5. CONCLUSIONS

A validated GC/MS method was used for the determination of ULSD concentration in suspension formulations. The analytical results met the applicable WIL Research SOP acceptance criteria for test substance homogeneity/concentration acceptability. In addition, analyzed formulations used for dose administration met the applicable WIL Research SOP acceptance criteria for test substance concentration acceptability. No test article was detected in the analyzed vehicle administered to the control group.

6. REPORT REVIEW AND APPROVAL

WIL-402025 Analytical Chemistry Report

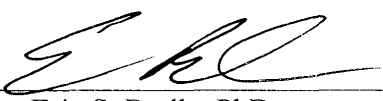
Report Prepared by:



Robert E. Boes, MS
Associate Research Chemist, Analytical Chemistry

9 Aug 2012
Date

Report Reviewed and Approved by:



Eric S. Bodle, PhD
Assistant Director, Analytical Chemistry

09 Aug 2012
Date

7. REFERENCES

Bodle, E.S. Analytical Validation and Stability Study of Ultra-Low Sulfur Diesel in Mineral Oil Formulations (Study No. WIL-402028). WIL Research Laboratories, LLC, Ashland, OH, **2012**.

8. ABBREVIATIONS

The following abbreviations may apply to this report:

μ	-	micro
μL	-	microliter
ACN	-	acetonitrile
btm	-	bottom
cm	-	centimeter
DI	-	deionized
DMSO	-	dimethylsulfoxide
ESI+	-	positive electrospray ionization
FA	-	formic acid
g	-	gram
HPLC	-	high performance liquid chromatography
hr	-	hour(s)
IS	-	internal standard
kg	-	kilogram
L	-	liter
LLOQ	-	lower limit of quantitation
MC	-	methylcellulose
MeOH	-	methanol
mg	-	milligram
mL	-	milliliter
mm	-	millimeter
msec	-	milliseconds
MS	-	mass spectrometry
mM	-	millimolar
NA	-	not applicable
ND	-	not detected
ng	-	nanogram
QC	-	quality control
%RE	-	percent relative error
RSD	-	relative standard deviation
SD	-	standard deviation
SOP	-	standard operating procedure
SPE	-	solid phase extraction
UV	-	ultraviolet
v	-	volume
w	-	weight
WIL Research	-	WIL Research Laboratories, LLC

TABLES 1 - 3

Table 1. Homogeneity/Concentration Assessment of the 6 May 2011 Formulations
(Analyzed 6 May 2011)

Group/ Strata	Dose Conc. (mg/mL)	Ref # (402025 -)	Line # (402028e-)	Analyzed Conc. (mg/mL)	Percent of Target (%)	Mean Conc. (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
2/Top	0	1 - 1	32			-----Not Detected-----			
		1 - 2	33			-----Not Detected-----			
2/Mid		1 - 3	34			-----Not Detected-----			
		1 - 4	35			-----Not Detected-----			
2/Btm		1 - 5	36			-----Not Detected-----			
		1 - 6	37			-----Not Detected-----			
3/Top	66.7	1 - 7	38	69	104	64.9	5.0	7.7	97.3
		1 - 8	39	56	84.1				
3/Mid		1 - 9	40	63	94.5				
		1 - 10	41	66	99.7				
3/Btm		1 - 11	42	65	97.7				
		1 - 12	43	70	105				

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Table 1 (Continued). Homogeneity/Concentration Assessment of the 6 May 2011 Formulations
(Analyzed 6 May 2011)

Group/ Strata	Dose Conc. (mg/mL)	Ref # #REF!	Line # (402028e-)	Analyzed Conc. (mg/mL)	Percent of Target (%)	Mean Conc. (mg/mL)	SD	RSD (%)	Mean Conc % of Target (%)
4/Top	200	2 - 1	44	206	103	193	11	5.6	96.4
		2 - 2	45	185	92.3				
4/Mid		2 - 3	46	204	102				
		2 - 4	47	196	97.9				
4/Btm		2 - 5	48	179	89.7				
		2 - 6	49	187	93.4				
5/Top	400	2 - 7	50	430	108	391	25	6.5	97.8
		2 - 8	51	398	99.5				
5/Mid		2 - 9	52	356	89.0				
		2 - 10	53	374	93.6				
5/Btm		2 - 11	54	388	97.1				
		2 - 12	55	400	100				

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Table 2. Concentration Assessment of the 17 June 2011 Formulations
(Analyzed 17 June 2011)

<u>Group/ Stratum</u>	<u>Dose Conc</u> (mg/mL)	<u>Ref #</u> (402025-)	<u>Line#</u> (402028g-)	<u>Analyzed Conc</u> (mg/mL)	<u>Percent of Target</u> (%)	<u>Mean Conc</u> (mg/mL)	<u>SD</u>	<u>RSD</u> (%)	<u>Mean Conc % of Target</u> (%)
2/Mid	0	9 - 1	32			-----Not Detected-----			
		9 - 2	33			-----Not Detected-----			
3/Mid	66.7	9 - 3	34	60.3	90.4	62.0	2.4	3.9	92.9
		9 - 4	35	63.7	95.5				
4/Mid	200	10 - 1	36	177	88.3	177	0.092	0.052	88.3
		10 - 2	37	177	88.4				
5/Mid	400	10 - 3	38	408	102	365	60	17	91.3
		10 - 4	39	323	80.7				

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Table 3. Concentration Assessment of the 29 July 2011 Formulations
(Analyzed 29 July 2011)

<u>Group/ Stratum</u>	<u>Dose Conc</u> (mg/mL)	<u>Ref #</u> (402025-)	<u>Line#</u> (402025a1-)	<u>Analyzed Conc</u> (mg/mL)	<u>Percent of Target</u> (%)	<u>Mean Conc</u> (mg/mL)	<u>SD</u>	<u>RSD</u> (%)	<u>Mean Conc % of Target</u> (%)
2/Mid	0	22 - 1	35			-----Not Detected-----			
		22 - 2	36			-----Not Detected-----			
3/Mid	66.7	22 - 3	37	61.2	91.8	59.6	2.3	3.8	89.4
		22 - 4	38	58.0	87.0				
4/Mid	200	23 - 1	39	175	87.6	170	7.3	4.3	85.0
		23 - 2	40	165	82.4				
5/Mid	400	23 - 3	41	372	93.1	342	43	13	85.5
		23 - 4	42	311	77.9				

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APPENDIX D

Pretest Clinical Observations

----- M A L E -----		

TABLE RANGE:	04-29-11 TO 05-08-11	
GROUP:		1

NORMAL		
-NO SIGNIFICANT CLINICAL OBSERVATIONS		106/60
EYES/EARS/NOSE		
-DRIED RED MATERIAL AROUND LEFT EYE		3/ 3
-DRIED RED MATERIAL AROUND RIGHT EYE		6/ 6
-DRIED RED MATERIAL AROUND NOSE		10/10

1- PRETEST		

PROJECT NO.:WIL-402025P
SPONSOR:AMERICAN PETROLEUM

TABLE P1 (PRETEST DETAILED PHYSICAL EXAMINATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF CLINICAL FINDINGS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- F E M A L E -----

TABLE RANGE:	04-29-11 TO 05-08-11	
GROUP:		1

NORMAL		
-NO SIGNIFICANT CLINICAL OBSERVATIONS		109/60
EYES/EARS/NOSE		
-DRIED RED MATERIAL AROUND LEFT EYE		2/ 2
-DRIED RED MATERIAL AROUND RIGHT EYE		2/ 2
-DRIED RED MATERIAL AROUND NOSE		10/10
EXCRETA		
-WET YELLOW MATERIAL UROGENITAL AREA		1/ 1
-WET YELLOW MATERIAL VENTRAL TRUNK		1/ 1
-WET YELLOW MATERIAL ANOGENITAL AREA		1/ 1
SPECIAL		
-SWOLLEN FACIAL AREA		1/ 1

1- PRETEST		
		PCSUV4.07 08/24/2011

----- M A L E -----		
TABLE RANGE:	05-05-11	
GROUP:		1

DERMAL OBS	
-SCORED, NOT REMARKABLE	60/60
1- PRETEST	

PROJECT NO.:WIL-402025P
SPONSOR:AMERICAN PETROLEUM

TABLE P2 (PRETEST DERMAL OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
SUMMARY OF DERMAL OBSERVATIONS: TOTAL OCCURRENCE/NO. OF ANIMALS

PAGE 2

----- F E M A L E -----

TABLE RANGE:	05-05-11	
GROUP:		1

DERMAL OBS
-SCORED, NOT REMARKABLE 60/60

1- PRETEST
PCSuV4.07
11/07/2011
R:11/07/2011

APPENDIX E

Animal Room Environmental Conditions

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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STUDY SPECIFICATIONS: 402025

DATE IN 04/26/11 TIME IN 08:00

DATE OUT 08/07/11 TIME OUT 16:00

ROOM SPECIFICATIONS: B ROOM 54

LOW TEMPERATURE °F: 66.0 HIGH TEMPERATURE °F: 76.0 LOW HUMIDITY %RH: 30.0

TEST SYSTEM: RAT

LOW TEMPERATURE °C: 18.9 HIGH TEMPERATURE °C: 24.4 HIGH HUMIDITY %RH: 70.0

DATE	PRIMARY TEMP		SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)	MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
04/26/11	71.0	21.7	70.6	21.4	50.0	51.9
04/27/11	70.6	21.4	70.7	21.5	51.0	52.7
04/28/11	70.9	21.6	70.8	21.6	47.1	48.7
04/29/11	70.7	21.5	70.7	21.5	46.6	48.3
04/30/11	70.7	21.5	71.0	21.7	46.6	47.9
05/01/11	70.8	21.6	71.0	21.7	49.3	50.8
05/02/11	70.6	21.4	70.8	21.6	48.5	50.0
05/03/11	70.6	21.4	70.9	21.6	46.5	47.7
05/04/11	70.6	21.4	70.7	21.5	46.8	48.3
05/05/11	70.7	21.5	70.7	21.5	46.0	47.5
05/06/11	70.4	21.3	70.6	21.4	46.7	48.2
05/07/11	70.6	21.4	70.9	21.6	48.1	49.7
05/08/11	70.8	21.6	71.0	21.7	48.9	50.4
05/09/11	70.7	21.5	70.8	21.6	47.0	48.5
05/10/11	70.5	21.4	70.7	21.5	47.9	49.5
05/11/11	70.4	21.3	70.3	21.3	50.3	52.3
05/12/11	71.1	21.7	71.0	21.7	51.5	53.0
05/13/11	70.4	21.3	70.3	21.3	52.3	54.1
05/14/11	70.4	21.3	70.5	21.4	51.5	53.1

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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DATE	PRIMARY TEMP		SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)	MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
05/15/11	70.6	21.4	70.9	21.6	50.1	51.5
05/16/11	70.8	21.6	71.2	21.8	47.9	49.3
05/17/11	70.6	21.4	71.0	21.7	47.8	49.2
05/18/11	71.0	21.7	71.1	21.7	52.2	53.9
05/19/11	70.6	21.4	70.7	21.5	51.2	53.1
05/20/11	70.0	21.1	70.1	21.2	52.2	54.4
05/21/11	70.9	21.6	70.9	21.6	51.9	53.7
05/22/11	71.0	21.7	70.7	21.5	52.0	53.9
05/23/11	71.0	21.7	70.8	21.6	52.2	53.9
05/24/11	70.9	21.6	70.7	21.5	51.8	53.5
05/25/11	70.0	21.1	70.2	21.2	53.2	54.9
05/26/11	70.2	21.2	70.3	21.3	52.4	54.1
05/27/11	70.7	21.5	70.9	21.6	52.7	54.4
05/28/11	70.9	21.6	70.8	21.6	51.3	53.2
05/29/11	70.9	21.6	70.6	21.4	52.3	54.0
05/30/11	71.0	21.7	70.5	21.4	53.8	55.6
05/31/11	71.2	21.8	70.6	21.4	55.0	55.3
06/01/11	70.5	21.4	70.0	21.1	51.5	53.2
06/02/11	70.6	21.4	70.5	21.4	49.4	51.7
06/03/11	70.9	21.6	71.1	21.7	48.6	50.7
06/04/11	70.4	21.3	70.4	21.3	53.1	54.9
06/05/11	70.6	21.4	70.6	21.4	52.0	53.3
06/06/11	70.8	21.6	70.6	21.4	52.0	53.8

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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DATE	PRIMARY TEMP		SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)	MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
06/07/11	71.6	22.0	71.5	21.9	51.2	51.9
06/08/11	70.4	21.3	70.2	21.2	52.9	54.1
06/09/11	71.6	22.0	71.3	21.8	51.5	52.3
06/10/11	70.3	21.3	70.6	21.4	53.4	54.5
06/11/11	70.6	21.4	70.6	21.4	55.5	56.9
06/12/11	69.6	20.9	70.0	21.1	54.3	56.0
06/13/11	71.2	21.8	71.3	21.8	50.7	52.4
06/14/11	71.3	21.8	71.5	21.9	50.1	51.5
06/15/11	71.0	21.7	71.3	21.8	51.0	52.6
06/16/11	70.7	21.5	70.9	21.6	56.0	57.4
06/17/11	70.9	21.6	70.9	21.6	55.9	57.4
06/18/11	70.2	21.2	70.5	21.4	53.9	54.8
06/19/11	70.4	21.3	70.7	21.5	53.9	54.5
06/20/11	70.4	21.3	70.7	21.5	53.7	54.1
06/21/11	70.4	21.3	70.3	21.3	55.1	55.3
06/22/11	70.6	21.4	70.5	21.4	54.0	54.5
06/23/11	71.1	21.7	71.1	21.7	51.9	52.5
06/24/11	70.8	21.6	71.0	21.7	52.8	53.7
06/25/11	71.5	21.9	71.5	21.9	51.0	52.1
06/26/11	70.6	21.4	70.7	21.5	51.7	53.5
06/27/11	70.1	21.2	70.3	21.3	53.3	54.9
06/28/11	70.3	21.3	70.2	21.2	52.6	53.8
06/29/11	69.8	21.0	69.9	21.1	51.5	53.8

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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DATE	PRIMARY TEMP		SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)	MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
06/30/11	70.0	21.1	70.0	21.1	50.8	52.9
07/01/11	70.6	21.4	70.4	21.3	51.9	53.7
07/02/11	70.8	21.6	70.7	21.5	53.7	54.1
07/03/11	71.1	21.7	70.9	21.6	53.5	53.7
07/04/11	70.4	21.3	70.5	21.4	54.3	55.4
07/05/11	70.4	21.3	70.2	21.2	52.6	54.6
07/06/11	70.5	21.4	70.3	21.3	52.9	54.0
07/07/11	70.7	21.5	70.5	21.4	53.0	53.6
07/08/11	70.0	21.1	70.4	21.3	54.3	55.1
07/09/11	69.9	21.1	69.9	21.1	52.6	54.6
07/10/11	70.8	21.6	70.5	21.4	52.9	54.2
07/11/11	70.6	21.4	70.6	21.4	56.1	55.6
07/12/11	70.6	21.4	70.3	21.3	60.6	57.6
07/13/11	70.6	21.4	70.5	21.4	55.8	54.5
07/14/11	70.2	21.2	70.2	21.2	53.0	54.1
07/15/11	70.6	21.4	70.5	21.4	54.5	54.8
07/16/11	70.8	21.6	70.7	21.5	55.9	54.6
07/17/11	70.5	21.4	70.4	21.3	57.9	55.5
07/18/11	71.2	21.8	70.9	21.6	68.5	55.8
07/19/11	70.8	21.6	70.5	21.4	70.3 +0.3	55.8
07/20/11	70.9	21.6	70.7	21.5	53.5	52.9
07/21/11	72.3	22.4	71.3	21.8	59.6	59.7
07/22/11	71.1	21.7	70.7	21.5	58.0	57.3

NOTE: + = VALUE WAS GREATER THAN HIGH RANGE

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

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DATE	PRIMARY TEMP		SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)	MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
07/23/11	70.6	21.4	70.6	21.4	52.7	53.0
07/24/11	70.6	21.4	70.5	21.4	59.4	59.0
07/25/11	70.7	21.5	70.5	21.4	56.1	55.8
07/26/11	70.6	21.4	70.5	21.4	50.7	51.9
07/27/11	70.6	21.4	70.6	21.4	53.8	55.1
07/28/11	70.7	21.5	70.4	21.3	64.2	61.8
07/29/11	70.5	21.4	70.3	21.3	59.7	55.9
07/30/11	70.5	21.4	70.7	21.5	52.4	53.2
07/31/11	70.5	21.4	71.0	21.7	49.8	51.3
08/01/11	70.6	21.4	71.1	21.7	51.3	52.1
08/02/11	70.8	21.6	71.2	21.8	51.0	51.2
08/03/11	70.5	21.4	71.2	21.8	52.7	52.0
08/04/11	70.7	21.5	71.1	21.7	49.8	49.9
08/05/11	70.5	21.4	71.0	21.7	50.3	51.1
08/06/11	70.6	21.4	71.1	21.7	50.0	50.2
08/07/11	70.6	21.4	71.2	21.8	50.4	50.1

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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DATE	PRIMARY TEMP			SECONDARY TEMP		PRIMARY HUM	SECONDARY HUM
	MEAN (°F)	MEAN (°C)		MEAN (°F)	MEAN (°C)	MEAN (%RH)	MEAN (%RH)
SUMMARY OF DAILY MEANS	MEAN	MIN	MAX				
PRIMARY TEMP °F:	70.7	69.6	72.3				
PRIMARY TEMP °C:	21.5	20.9	22.4				
SECONDARY TEMP °F:	70.7	69.9	71.5				
SECONDARY TEMP °C:	21.5	21.1	21.9				
PRIMARY HUM %RH:	52.6	46.0	70.3				
SECONDARY HUM %RH:	53.3	47.5	61.8				
N DAYS	104						

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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B ROOM 54 SUMMARY OF HOURLY VALUES

	PRIMARY TEMP				SECONDARY TEMP				PRIMARY HUM		SECONDARY HUM	
MEAN	70.7	°F	21.5	°C	70.7	°F	21.5	°C	52.6	%RH	53.3	%RH
MIN	66.8	°F	19.3	°C	68.4	°F	20.2	°C	41.8	%RH	43.0	%RH
MAX	79.8	°F	26.6	°C	75.9	°F	24.4	°C	94.0	%RH	79.8	%RH
SD	1.14		0.63		1.02		0.57		5.17		4.07	
SE	0.02		0.01		0.02		0.01		0.10		0.08	
N SAMPLES	2469				2469				2468		2469	
FIRST DAY	04/26/11											
LAST DAY	08/07/11											
N DAYS	104											

A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS

PROJECT NO.:WIL- 402025

TEMPERATURE/HUMIDITY - STUDY SUMMARY REPORT

SPONSOR: 402 - AMERICAN PETROLEUM

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STUDY 402025 SUMMARY OF HOURLY VALUES

	PRIMARY TEMP				SECONDARY TEMP				PRIMARY HUM		SECONDARY HUM	
MEAN	70.7	°F	21.5	°C	70.7	°F	21.5	°C	52.6	%RH	53.3	%RH
MIN	66.8	°F	19.3	°C	68.4	°F	20.2	°C	41.8	%RH	43.0	%RH
MAX	79.8	°F	26.6	°C	75.9	°F	24.4	°C	94.0	%RH	79.8	%RH
SD	1.14		0.63		1.02		0.57		5.17		4.07	
SE	0.02		0.01		0.02		0.01		0.10		0.08	
N SAMPLES	2469				2469				2468		2469	
FIRST DAY	04/26/11											
LAST DAY	08/07/11											
N DAYS	104											

APPENDIX F

Unscheduled Clinical Observations and Treatments

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE U1 (UNSCHEDULED CLINICAL OBSERVATIONS AND TREATMENTS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 1

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	SPECIAL	8	13:22	P	SWOLLEN FACIAL AREA
11020	M	100 MG/KG/DAY	SPECIAL II	77	10:47	P	WATER BOTTLE ADDED - BODY WEIGHT LOSS
11047	M	100 MG/KG/DAY	SPECIAL	8	13:22	P	SWOLLEN FACIAL AREA
11017	M	300 MG/KG/DAY	SPECIAL II	88	13:11	P	WATER BOTTLE ADDED - BODY WEIGHT LOSS
11074	F	0 MG/KG/DAY	SPECIAL II	77	10:47	P	WATER BOTTLE ADDED - BODY WEIGHT LOSS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PCRDv4.17
08/17/2011

APPENDIX G

Scoring Criteria for Dermal Reactions

SCORING CRITERIA FOR DERMAL REACTIONS

Evaluation of Dermal Reactions*

<u>Value</u>	<u>Erythema and Eschar Formation</u>	<u>Computer Designation</u>
0	No erythema	No erythema
1	Very slight erythema (barely perceptible, edges of area not well defined)	Very slight erythema
2	Slight erythema (pale red in color and edges definable)	Slight erythema
3	Moderate to severe erythema (definite red in color and area well defined)	Moderate erythema
4	Severe erythema (beet or crimson red) to slight eschar formation (injuries in depth)	Severe erythema

<u>Value</u>	<u>Edema Formation</u>	<u>Computer Designation</u>
0	No edema	No edema
1	Very slight edema (barely perceptible, edges of area not well defined)	Very slight edema
2	Slight edema (edges of area well defined by definite raising)	Slight edema
3	Moderate edema (raised approximately 1 mm)	Moderate edema
4	Severe edema (raised more than 1 mm and extending beyond area of exposure)	Severe edema

* Draize, J.H. The appraisal of the safety of chemicals in foods, drugs and cosmetics. *Dermal Toxicity* **1965**, 46-59. Assoc. of Food and Drug Officials of the U.S., Topeka, Kansas and the EPA-OPPTS Health Effects Test Guidelines **1998**.

APPENDIX H

Clinical Pathology Methods, Procedures, and References

CLINICAL PATHOLOGY METHODS, PROCEDURES, AND REFERENCES

Serum Chemistry - Hitachi 912

Albumin - Bromcresol Green (BCG) Method, Modification of the Doumas reaction. Default unit: g/dL. Hitachi 912. Roche Reagent.

A/G Ratio - Calculated from Albumin and Globulin Results.

Alkaline Phosphatase - based on the International Federation of Clinical Chemistry (IFCC) Method (Tietz *et al.* J Clin Chem Clin Biochem 1983; 21:731-748). Default unit: U/L. Hitachi 912. Roche Reagent.

Alanine Aminotransferase - Modification of the International Federation of Clinical Chemistry (IFCC) recommended method. Default unit: U/L. Hitachi 912. Roche Reagent.

Aspartate Aminotransferase - Kinetic method based on the International Federation of Clinical Chemistry (IFCC) recommendations. Default unit: U/L. Hitachi 912. Roche Reagent.

Bilirubin (Total) - Diazo method developed by Wahlefeld *et al.* Scand J Clin Lab Invest 1972; 29: Supplement 126. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Blood Urea Nitrogen (BUN) - A urease-triggered methodology based upon the method of Talke and Schubert Klin Wschr, 1965; 43:174. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Calcium - Calcium reacts with o-cresolphthalein complexone in the presence of 8-hydroxyquinoline to form a purple chromophore. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Chloride - An ion-selective electrode that measures the electrical potential of the ions present in solution. Default unit: mEq/L. Hitachi 912 Application. Roche Reagent, catalog numbers 450043, 450042, and 450041.

Cholesterol - Enzymatic reaction as described by Trinder. Ann Clin Biochem 1974; 12:266. Default unit: mg/dL. Hitachi 912 Application Code 722. Roche Reagent, catalog number 450061.

Creatinine - Modified Jaffe reaction based on the work of Popper *et al.* Biochem Z 1937; 291:354, and Seelig and Wust. Aerztl Labor 1969; 15:34. Default unit: mg/dL. Hitachi 912 Application Code 727. Roche Reagent, catalog number 450019.

Gamma-Glutamyltransferase (GGT) - Method based on the studies of Persijn and Van der Slik, J Clin Chem Clin Biochem, 1976; 14:421-427. Default unit: U/L. Hitachi 912. Roche Reagent.

Globulin - Calculation obtained by subtracting Albumin from Total Protein. Default unit: g/dL.

Glucose - Glucose hexokinase method based on the work of Schmidt, Peterson and Young. Klin Wschr 1961; 39:1244. Methods of Enzymatic Analysis, 2nd Eng ed. New York, Academic Press, 1974; 1196. Anal Biochemistry 1958; 23:301. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Phosphorus - Method involves the formation of ammonium phosphomolybdate. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Potassium - An ion-selective electrode that measures the electrical potential of the ions present in solution. Default unit: mEq/L. Hitachi 912. Roche Reagent.

Sodium - An ion-selective electrode that measures the electrical potential of the ions present in solution. Default unit: mEq/L. Hitachi 912. Roche Reagent.

Sorbitol Dehydrogenase (SDH) - An ultraviolet, kinetic method utilizing the following principal: $\text{Fructose} + \text{NADH} \xleftarrow{\text{SDH}} \text{Sorbitol} + \text{NAD}$. Default unit: U/L. Diagnostic Chemicals Limited. Hitachi 912.

Total Protein - Endpoint biuret method that utilizes a sample blank. Default unit: g/dL. Hitachi 912. Roche Reagent.

Triglycerides - Method that utilizes lipase from a microorganism to promote rapid and complete hydrolysis of triglycerides to glycerol. Default unit: mg/dL. Hitachi 912. Roche Reagent.

Hematology - Manual Methods

White Cell Differential - Manual method of counting 100 white cells stained with Wright Giemsa and entered on-line into the data files.

Reticulocyte Count - Manual method of counting the reticulocytes present in 1000 red blood cells stained with New Methylene Blue and entered on-line into the data files.

Red Blood Cell Morphology - Manual method of evaluating red blood cells on a Wright Giemsa-stained slide and entered on-line into the data files.

Platelet Estimate- Manual method of evaluating platelets on a Wright Giemsa-stained slide. Platelet estimation is evaluated and entered on-line into the data files as decreased, adequate or increased. Platelet clumps present on the slide will be reported as part of the RBC morphology.

AMAX Destiny Amelung Coagulation

Mechanical (Ball Method) Measurement – Mechanical measurement methods depend on the physical formation of fibrin strands that attach to a moving mechanical device that either completes or opens an electrical circuit. The elapsed time from the addition of the starting reagent, up to the beginning of fibrin formation is measured.

Prothrombin Time - (PT)/(PTMT)- The coagulation cascade is activated by incubating plasma with the optimal amount of thromboplastin and calcium; the clotting time is then measured. Default unit: sec. Dade[®] Thromboplastin C Plus* Reagent, catalog number B4216-2.

Activated Partial Thromboplastin Time - (APTT)/(PTTMT) – Factors of the intrinsic coagulation system are activated by incubating the plasma with the optimal amount of phospholipids and a surface activator. The addition of calcium ions triggers the coagulation process, and the clotting time is then measured. Default unit: sec. Dade[®] Actin[®] Activated Cephaloplastin Reagent, catalog number B4218-2.

Hematology-Bayer Advia[®] 120-Siemens Healthcare Diagnostics/(Formerly: Bayer Advia[®] 120)

WBC Count - The whole blood sample is mixed with ADVIA[®] 120 BASO reagent that contains acid and surfactant. The red cells are hemolyzed, and the white blood cells are then analyzed using two angle laser light scatter signals. Default unit: $\times 10^3$ cells/ μ L

RBC / Platelet Count - Both red blood cells and platelets are analyzed by a single optical cytometer after appropriate dilution of the blood sample with ADVIA[®] 120 RBC/PLT reagent. The red blood cells are isovolumetrically spherized and lightly fixed with glutaraldehyde to preserve the spherical shape. Red cells and platelets are counted from the signals from a common detector with 2 different gain settings. Default unit RBC: $\times 10^6$ cells/ μ L. Default unit PLT: $\times 10^3$ cells/ μ L

HGB - Hemoglobin: The hemoglobin method is a modification of the manual cyanmethemoglobin method developed by the International Committee for standardization in Hematology (ICSH). Default unit: g/dL.

HCT – Hematocrit: The percentage of blood volume that is occupied by red blood cells. Also referred to as the packed red cell volume. On the ADVIA[®] 120 Hematology System this parameter is derived from the measured red cell volume (MCV) and the red cell count (RBC). Default unit: %.

MCH - Mean Corpuscular Hemoglobin: the average weight of hemoglobin in the red blood cells, calculated from the RBC and Hgb measurements. Default unit: pg.

MCHC - Mean Corpuscular Hemoglobin Concentration: the average concentration of hemoglobin in the red blood cells. This parameter is computed from the measured hemoglobin and the computed hematocrit. Default unit: g/dL.

MCV - Mean Corpuscular Volume: the average volume of the red blood cells. Default unit: fL

HDW - Hemoglobin Concentration Distribution Width: this parameter is derived from direct flow cytometric measurements of red cell hemoglobin concentration, and is increased in conditions of red cell anisochromasia. Default unit: g/dL.

RDW - Red Cell Distribution Width: the CV of the RBC volume histogram, calculated from the RBC volume SD and the MCV. Default unit: %.

White blood cell differential - The ADVIA[®] 120 Hematology System White Blood Cell Differential (WBC DIFF) methods, consists of both the Peroxidase method and the Basophil/Lobularity method. The ADVIA[®] 120 Hematology System performs a six-part differential that consists of basophils, eosinophils, large unstained cells, lymphocytes, monocytes, and neutrophils. The white blood cell differential count is reported in percent and the actual number of each type of cell per microliter of blood.

Reticulocyte - This method uses a nucleic acid dye (oxazine 750) to stain cellular RNA. The ADVIA[®] 120 autoRETIC reagent isovolumetrically spheres the erythroid cells and stains cellular RNA. Low-angle laser light scatter, high-angle laser light scatter, and absorption characteristics of all cells are counted and measured. The absorption data are used to classify each cell as a reticulocyte or mature red blood cell based on its RNA content. The reticulocyte is reported in percent and actual number $\times 10^9$ cells/Liter = thous/ μ L.

References:

AMAX Destiny Operation Manual. Trinity Biotech Plc.

Dade[®] Thromboplastin C Plus* Reagent (PT) – Dade Behring. Package Insert (B4216 G1). 11/05 edition.

Dade[®] Actin[®] Activated Cephaloplastin Reagent (APTT) – Dade Behring. Package Insert (B4218 G1).

ADVIA[®] 120 Hematology System Operator's Guide: Copyright[©] 1997, 1998. Siemens Healthcare Diagnostics/(Formerly: Bayer Corporation Diagnostics Division).

APPENDIX I

Pathology Report (WIL Research Laboratories, LLC)

A 90-Day Repeat-Dose Dermal Toxicity
Study Utilizing Ultra-Low Sulfur
Diesel Fuel in Sprague Dawley Rats

Pathology Report

Pathology Department

WIL Research Laboratories, LLC



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1. INTRODUCTION

The objectives of this study were to 1) evaluate the toxicity potential of repeated dermal exposure of Ultra-Low Sulfur Diesel Fuel for 90 days and determine the effects on male and female rats, 2) verify/expand the existing data pertaining to polycyclic aromatic compounds (PAC) and the prediction of toxicity following exposure to high-boiling substances based on their PAC content, and 3) assist in dose selection for potential future 2-generation reproductive studies (OECD 414) in Sprague Dawley rats. This pathology report addresses the anatomical and clinical pathology endpoints of the study.

2. STUDY DESIGN

Male and female CrI:CD(SD) rats, approximately 8 weeks of age, were administered vehicle or Ultra-Low Sulfur Diesel Fuel formulations by dermal exposure once daily, 5 days a week for a minimum 90-day treatment period (last dose occurred the day prior to the scheduled necropsy) as indicated in the following table. The dose volume was 1.5 mL/kg for Groups 2-5. All rats were collared during each 5-day dosing period. After the approximate 6-hour exposure period, all animals were gently wiped with a paper towel to remove unabsorbed test substance. The Group 1 sham control animals were subject to the same procedures (*i.e.*, shaving, collaring, sham dosing with glass rod and removal of residual test substance) as animals in Groups 2-5. However, no vehicle or test substance was applied to the sham control group animals.

Group Number	Treatment	Dosage Level (mg/kg/day)	Number of Animals	
			Males	Females
1	Sham Control	NA	10	10
2	Vehicle ^a	0	10	10
3	Ultra-Low Sulfur Diesel Fuel	100	10	10
4	Ultra-Low Sulfur Diesel Fuel	300	10	10
5	Ultra-Low Sulfur Diesel Fuel	600	10	10

^a = The vehicle was mineral oil, USP.

3. METHODS

3.1. CLINICAL PATHOLOGY

Hematology, coagulation, and serum chemistry parameters were evaluated on all rats on the day of the scheduled necropsy. Animals were fasted overnight prior to blood collection. Blood samples were collected at necropsy from the vena cava of animals euthanized by isoflurane. Anticoagulants were potassium EDTA for the hematology parameters and sodium citrate for the coagulation parameters. Anticoagulants were not used for serum chemistry samples.

The following parameters were evaluated.

3.1.1. HEMATOLOGY AND COAGULATION

Total leukocyte count (WBC)	Red cell distribution width (RDW)
Erythrocyte count (RBC)	Hemoglobin distribution width (HDW)
Hemoglobin (HGB)	Differential leukocyte count - Percent and absolute
Hematocrit (HCT)	-Neutrophil (NEU)
Mean corpuscular volume (MCV)	-Lymphocyte (LYMPH)
Mean corpuscular hemoglobin (MCH)	-Monocyte (MONO)
Mean corpuscular hemoglobin concentration (MCHC)	-Eosinophil (EOS)
Platelet count (Platelet)	-Basophil (BASO)
Prothrombin time (PT)	-Large unstained cell (LUC)
Activated partial thromboplastin time (APTT)	Platelet estimate ^a
Reticulocyte count	Red cell morphology (RBC Morphology) ^a
Percent (Retic)	
Absolute (Retic Absolute)	

() - Designates abbreviations used in data tables

^a - Presented on individual tables if a manual differential was performed, and the manual data were accepted and reported instead of the automated differential data

3.1.2. SERUM CHEMISTRY

Albumin	Gamma glutamyltransferase (GGT)
Total protein	Glucose
Globulin [by calculation]	Total cholesterol (Cholesterol)
Albumin/globulin ratio (A/G Ratio)	Calcium
[by calculation]	Chloride
Total bilirubin (Total Bili)	Phosphorus
Urea nitrogen	Potassium
Creatinine	Sodium
Alkaline phosphatase (ALP)	Triglycerides (Triglyceride)
Alanine aminotransferase (ALT)	Sorbitol dehydrogenase (SDH)
Aspartate aminotransferase (AST)	

() - Designates abbreviation used in data tables

3.2. ANATOMIC PATHOLOGY

3.2.1. MACROSCOPIC EXAMINATION

Complete *postmortem* examinations were performed on all animals at the scheduled necropsy. Animals were euthanized via isoflurane and exsanguinated following the clinical pathology blood collection. At the time of necropsy, the following tissues and organs were collected and placed in 10% neutral-buffered formalin fixative unless otherwise noted:

Adrenals (2)	Lymph nodes
Aorta	Axillary (2)
Bone with marrow	Mandibular (2)
Femur with joint	Mesenteric
Sternum	Ovaries (2) with oviducts ^d
Bone marrow smear (from sternum) ^a	Pancreas
Brain	Peripheral nerve (sciatic)
Cerebrum (2 levels)	Pituitary
Cerebellum with pons/medulla	Prostate
Cervix	Salivary glands [mandibular (2)]
Epididymides (2) ^b	Seminal vesicles (2)
Exorbital lacrimal glands (2)	Skeletal muscle (rectus femoris)
Eyes with optic nerves (2) ^c	Skin with mammary gland ^e
Gastrointestinal tract	Skin
Esophagus	Sham, Vehicle and Treated (3 sections)
Stomach	Untreated (posterior to treated skin)
Duodenum	Spinal cord (cervical, thoracic,
Jejunum	lumbar)
Ileum	Spleen
Cecum	Testes (2) ^b
Colon	Thymus
Rectum	Thyroid with parathyroids (2) ^d
Heart	Trachea
Kidneys (2)	Urinary bladder
Liver (sections of 2 lobes)	Uterus
Lungs (including bronchi, fixed	Vagina
by inflation with fixative)	Gross lesions (when possible)

^a - Bone marrow smears were not placed in formalin, slides were not examined.

^b - Fixed in Bouin's solution

^c - Fixed in Davidson's solution

^d - Oviducts and parathyroids were examined microscopically when in the plane of section and in all cases where a gross lesion was present.

^e - For females; a corresponding section of skin was taken from the same anatomical area for males

3.2.2. ORGAN WEIGHTS

The following organs were weighed from all animals at the scheduled necropsy:

Adrenal glands	Pituitary gland
Brain	Spleen
Epididymides	Testes
Heart	Thymus
Kidneys	Thyroid with parathyroids*
Liver	Uterus
Ovaries with oviducts	Prostate

Paired organs were weighed together. Designated (*) organs were weighed after fixation. Organ to final body weight and organ to brain weight ratios were calculated.

3.2.3. MICROSCOPIC EXAMINATION

Microscopic examination of routinely prepared hematoxylin-eosin stained paraffin sections was performed on all tissues collected at necropsy from all animals, with exceptions as indicated on the tissue list above. Gross lesions were examined from all animals and correlated to microscopic findings if possible. Stained histologic sections were examined by light microscopy and observations were entered in the WIL Toxicology Data Management System (WTDMS™) by the pathologist. Histologic sections were of adequate size and quality for detailed evaluation, and the number of tissues examined from each treatment group was sufficient to allow detection of test article-related histologic alterations.

Severity grades were assigned to non-neoplastic histopathologic diagnoses in compliance with the following general guidelines, as presented in the following table. Severity grades were assigned based on the severity of alterations in the examined histologic sections and may not reflect the overall severity of the pathologic process in the entire tissue, organ, or animal. The WTDMS™ histopathology tables contain all of the recorded data and serve as the basis for this narrative report.

Unremarkable	Tissue considered to be within normal limits, under the conditions of the study and considering the age, sex, and strain of the animal concerned.
Present	A non-gradable histologic change for which no additional information would be gained by assigning a severity score (<i>e.g.</i> cyst).
Grade 1 (Minimal)	A histologic change that barely exceeds that which is considered to be within normal limits. This change is unlikely to produce any functional impairment.
Grade 2 (Mild)	A histologic change that is easily identified but of limited severity. This change probably does not produce any functional impairment.
Grade 3 (Moderate)	A histologic change that is a prominent feature of the tissue but not of maximal severity. Limited tissue or organ dysfunction is possible.
Grade 4 (Severe)	A histologic change that is an overwhelming feature of the tissue and that may cause significant tissue or organ dysfunction.

3.3. ABBREVIATIONS AND DEFINITIONS

The following abbreviations may apply to this report:

- Interval - point in the study at which event occurred (specimen collection, necropsy, etc.)
- SN - scheduled necropsy

3.4. DATA INTERPRETATION

In the discussion of clinical pathology parameters, values derived from the vehicle control group animals at all time points evaluated were considered as concurrent control values for purposes of constructing a ‘normal’ range for the present study. In addition, historical control values for this laboratory were consulted to refine data interpretation. Unless otherwise stated in this report, the ‘normal’ historical control range was represented by values within the WIL Research historical control reference range (the central 95% values).

In the discussion of organ weights, the indication of higher or lower mean organ weights refers to a statistically significant ($p < 0.05$ or $p < 0.01$ using Dunnett’s test) difference

between test substance-treated versus vehicle control group animals in the present study. In addition, historical control values for this laboratory were consulted to refine data interpretation.

4. RESULTS

4.1. SURVIVAL

All rats survived to the scheduled necropsy.

4.2. CLINICAL PATHOLOGY

For the presentation of clinical pathology results in this report, the terms “higher” or “lower” refer to comparisons between test substance-exposed groups and the vehicle or sham control groups.

4.2.1. HEMATOLOGY AND COAGULATION

There were no test substance-related alterations in hematology and coagulation parameters.

4.2.2. SERUM CHEMISTRY

There were no test substance-related alterations in serum chemistry parameters.

A statistically significant difference was observed when the vehicle and test substance-exposed groups were compared. The albumin to globulin (A/G) ratio in the 600 mg/kg/day group males was higher than the vehicle control group but was not considered test substance-related as the value was similar to the sham control male group value.

4.3. GROSS OBSERVATIONS

Review of the gross necropsy observations revealed no observations that were considered to be associated with application of the test substance.

4.4. ORGAN WEIGHTS

There were no test substance-related alterations in organ weights.

4.5. HISTOLOGIC CHANGES

There were no test substance-related microscopic findings.

Findings in the skin unrelated to test substance exposure included mononuclear infiltrates in the treated, untreated, and inguinal skin. These infiltrates consisted of lymphocytes and plasma cells in the superficial dermis and rarely surrounding follicles in all groups. Inguinal skin from test substance-exposed males and females had a slightly higher incidence of mononuclear infiltrates compared to the sham control group. Untreated skin in the 300 and 600 mg/kg/day group males and females had a slightly higher incidence of mononuclear infiltrates when compared to the sham and vehicle control groups. These findings were not considered test substance-related as they were noted in skin that was not exposed to the test substance and there was no microscopic evidence of systemic exposure. One 600 mg/kg/day group male (no. 11060) had moderate chronic-active inflammation in the inguinal skin. Chronic-active inflammation was characterized by lymphocytes, plasma cells, neutrophils and macrophages accompanied by fibroplasia. Inflammatory cells were observed surrounding occasionally degenerate hair follicles and extended focally into the adjacent panniculus muscle. This inflammatory lesion was not considered test substance-related as this area was not exposed to test substance and was more consistent with a background lesion (Greaves, 2007).

Remaining histologic changes were considered to be incidental findings or related to some aspect of experimental manipulation other than administration of the test article. There was no test substance-related alteration in the prevalence, severity, or histologic character of those incidental tissue alterations.

5. CONCLUSIONS

Ultra-low sulfur diesel fuel was applied to the skin of male and female rats for approximately 6 hours per day, 5 days per week, for a minimum 90-day treatment period at doses of 0, 100, 300 and 600 mg/kg/day and compared to males and females with vehicle (mineral oil) applied to the skin. There were no test substance-related changes in hematology, serum chemistry, organ weights, and gross and microscopic observations.

6. REFERENCES

Greaves, P. Integumentary System. In *Histopathology of Preclinical Toxicity Studies*, 3rd ed.; Greaves, P., Ed; Elsevier: New York, **2007**, p. 14.

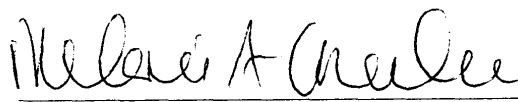
WIL-402025
American Petroleum Institute

Ultra-Low Sulfur Diesel Fuel

7. REPORT SUBMISSION

WIL-402025 Pathology Report

Report Submitted By:



Melanie A. Greeley, DVM, PhD, DACVP
Study Pathologist

1 Aug 2012
Date

APPENDIX J

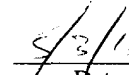
Ophthalmic Examinations
(Brian C. Gilger, DVM, MS, DACVO, DABT
and David A. Wilkie, DVM, MS, DACVO)

**OPHTHALMIC EXAMINATION STATEMENT FOR
STUDY WIL-402025**

Ophthalmic examinations were performed at WIL Research Laboratories, LLC during the pretest phase for all animals on 5/3/11. All findings observed during ophthalmic examinations for the above mentioned study are typical in prevalence and appearance for the species and strain or breed of animal examined. Examinations were performed by David A. Wilkie, DVM, MS, DACVO. All the ophthalmological diagnoses rendered by Dr. Wilkie, presented in this appendix, and the individual tables included in this report were accurately transcribed by the WIL Research Laboratories, LLC technical staff.



David A. Wilkie, DVM, MS, DACVO



Date

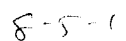
**OPHTHALMIC EXAMINATION STATEMENT FOR
STUDY WIL-402025**

Ophthalmic examinations were performed at WIL Research Laboratories, LLC during the in-life phase; ophthalmic examinations were performed on all males and females in the untreated, 0, 100, 300 and 600 mg/kg/day groups on 8/5/11. Examinations were performed by Brian C. Gilger, DVM, MS, DACVO. All the ophthalmological diagnoses rendered by Dr. Gilger, presented in this appendix, and the individual tables included in this report were accurately transcribed by the WIL Research Laboratories, LLC technical staff.

All findings observed during ophthalmic examinations for the above mentioned study are typical in prevalence and appearance for the species and strain or breed of animals examined. Ophthalmic findings were reviewed and there were no significant differences within or among dose groups or when compared to the pretest ophthalmic examinations to suggest a test article-related effect.



Brian C. Gilger, DVM, MS, DACVO



Date

APPENDIX K

Individual Animal Data

TABLE A1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
11011	M	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11012	M	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11013	M	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11015	M	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11021	M	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11022	M	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11026	M	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11040	M	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11044	M	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11053	M	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11001	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11009	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11010	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11014	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11029	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11033	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11037	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11046	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11052	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11057	M	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11006	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11019	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11020	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11025	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11028	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11045	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11047	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11048	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (8)

TABLE A1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
11050	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11054	M	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11003	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11005	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11007	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11008	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11017	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11018	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11027	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11031	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11038	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11043	M	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11024	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11030	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11034	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11035	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11004	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11042	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11049	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11058	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11059	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11060	M	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (8)

TABLE A1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
11069	F	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11082	F	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11088	F	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11089	F	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11090	F	UNTREATED	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11091	F	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11092	F	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11093	F	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11098	F	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11115	F	UNTREATED	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11114	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11070	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11074	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11079	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11084	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11087	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11099	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11110	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11111	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11116	F	0 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11071	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11072	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11073	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11076	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11078	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11083	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11086	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11101	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (8)

TABLE A1
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SURVIVAL AND DISPOSITION

ANIMAL	SEX	GROUP	TYPE OF DEATH	AGE IN WEEKS A	DATE OF DEATH	DAYS ON STUDY
11102	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11113	F	100 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11066	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11075	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11077	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11080	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11085	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11094	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11103	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11105	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11106	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11119	F	300 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11062	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11065	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11096	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11081	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11095	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	06-AUG-11	89
11097	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11104	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11112	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11117	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90
11118	F	600 MG/KG/DAY	SCHEDULED EUTHANASIA	20	07-AUG-11	90

A = CALCULATED TO THE NEAREST WHOLE WEEK USING THE MEAN AGE IN WEEKS AT INITIATION OF DOSING (8)

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 1

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	0	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11011	M	UNTREATED	DISPOSITION	89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11011	M	UNTREATED	BODY/INTEGUMENT	56	6:35	P	HAIR LOSS VENTRAL NECK
				63	6:28	P	HAIR LOSS DORSAL NECK
				63	6:28	P	HAIR LOSS VENTRAL NECK
				70	6:28	P	HAIR LOSS VENTRAL NECK
				77	6:33	P	HAIR LOSS VENTRAL NECK
				84	6:21	P	HAIR LOSS VENTRAL NECK
				89	6:27	P	HAIR LOSS DORSAL NECK
				89	6:27	P	HAIR LOSS VENTRAL NECK
11011	M	UNTREATED	BODY/INTEG II	49	6:36	P	SCABBING VENTRAL NECK
				89	6:27	P	SCABBING VENTRAL NECK
11012	M	UNTREATED	NORMAL	0	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11012	M	UNTREATED	DISPOSITION	89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11012	M	UNTREATED	BODY/INTEGUMENT	42	7:49	P	HAIR LOSS FORELIMB(S)
				49	6:37	P	HAIR LOSS VENTRAL NECK
				49	6:37	P	HAIR LOSS FORELIMB(S)
				56	6:35	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 2

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	BODY/INTEGUMENT	56	6:35	P	HAIR LOSS FORELIMB(S)
				63	6:28	P	HAIR LOSS VENTRAL NECK
				63	6:28	P	HAIR LOSS FORELIMB(S)
				70	6:29	P	HAIR LOSS VENTRAL NECK
				70	6:29	P	HAIR LOSS FORELIMB(S)
				77	6:34	P	HAIR LOSS FORELIMB(S)
				77	6:34	P	HAIR LOSS VENTRAL NECK
				84	6:22	P	HAIR LOSS VENTRAL NECK
				84	6:22	P	HAIR LOSS FORELIMB(S)
				89	6:27	P	HAIR LOSS DORSAL NECK
				89	6:27	P	HAIR LOSS VENTRAL NECK
				89	6:27	P	HAIR LOSS FORELIMB(S)
11013	M	UNTREATED	NORMAL	0	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11013	M	UNTREATED	DISPOSITION	89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11013	M	UNTREATED	BODY/INTEGUMENT	63	6:29	P	HAIR LOSS VENTRAL NECK
				77	6:34	P	HAIR LOSS VENTRAL NECK
				84	6:23	P	HAIR LOSS VENTRAL NECK
				89	6:27	P	HAIR LOSS DORSAL NECK
				89	6:27	P	HAIR LOSS VENTRAL NECK
11013	M	UNTREATED	BODY/INTEG II	77	6:34	P	SCABBING VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 3

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	0	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11015	M	UNTREATED	DISPOSITION	89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11015	M	UNTREATED	BODY/INTEGUMENT	49	6:38	P	HAIR LOSS DORSAL NECK
				56	6:37	P	HAIR LOSS VENTRAL NECK
				63	6:30	P	HAIR LOSS VENTRAL NECK
				70	6:31	P	HAIR LOSS VENTRAL NECK
				77	6:35	P	HAIR LOSS VENTRAL NECK
				84	6:23	P	HAIR LOSS VENTRAL NECK
				89	6:27	P	HAIR LOSS VENTRAL NECK
11015	M	UNTREATED	BODY/INTEG II	63	6:30	P	SCABBING VENTRAL NECK
11021	M	UNTREATED	NORMAL	0	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11021	M	UNTREATED	DISPOSITION	89	7:56	P	PRIMARY NECROPSY (WEEK 12)
11021	M	UNTREATED	BODY/INTEGUMENT	63	6:31	P	HAIR LOSS VENTRAL NECK
				77	6:36	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	BODY/INTEGUMENT	84	6:24	P	HAIR LOSS VENTRAL NECK
				89	6:28	P	HAIR LOSS DORSAL NECK
				89	6:28	P	HAIR LOSS VENTRAL NECK
11022	M	UNTREATED	NORMAL	0	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11022	M	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11022	M	UNTREATED	BODY/INTEGUMENT	14	6:32	P	HAIR LOSS VENTRAL NECK
				28	6:25	P	HAIR LOSS DORSAL NECK
				49	6:40	P	HAIR LOSS VENTRAL NECK
				56	6:39	P	HAIR LOSS VENTRAL NECK
				63	6:32	P	HAIR LOSS DORSAL NECK
				63	6:32	P	HAIR LOSS VENTRAL NECK
				77	6:37	P	HAIR LOSS VENTRAL NECK
				84	6:25	P	HAIR LOSS VENTRAL NECK
11022	M	UNTREATED	BODY/INTEG II	28	6:24	P	SCABBING DORSAL NECK
				42	7:53	P	SCABBING VENTRAL NECK
				49	6:40	P	SCABBING VENTRAL NECK
11026	M	UNTREATED	NORMAL	0	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	90	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11026	M	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11026	M	UNTREATED	BODY/INTEGUMENT	35	6:55	P	HAIR LOSS VENTRAL NECK
				35	6:55	P	HAIR LOSS DORSAL NECK
				56	6:40	P	HAIR LOSS VENTRAL NECK
				56	6:40	P	HAIR LOSS DORSAL NECK
				63	6:32	P	HAIR LOSS VENTRAL NECK
				77	6:37	P	HAIR LOSS VENTRAL NECK
				84	6:26	P	HAIR LOSS VENTRAL NECK
11040	M	UNTREATED	NORMAL	0	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11040	M	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11040	M	UNTREATED	BODY/INTEGUMENT	28	6:26	P	HAIR LOSS DORSAL NECK
				28	6:27	P	HAIR LOSS VENTRAL NECK
				35	6:56	P	HAIR LOSS VENTRAL NECK
				35	6:56	P	HAIR LOSS DORSAL NECK
				77	6:38	P	HAIR LOSS VENTRAL NECK
				84	6:26	P	HAIR LOSS VENTRAL NECK
11040	M	UNTREATED	BODY/INTEG II	14	6:33	P	SCABBING DORSAL NECK
				14	6:33	P	SCABBING VENTRAL NECK
				28	6:26	P	SCABBING DORSAL NECK
				49	6:41	P	SCABBING VENTRAL NECK
				77	6:38	P	SCABBING VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	0	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11044	M	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11044	M	UNTREATED	BODY/INTEGUMENT	28	6:27	P	HAIR LOSS DORSAL NECK
				28	6:27	P	HAIR LOSS VENTRAL NECK
				28	6:28	P	HAIR LOSS RIGHT LATERAL NECK
				35	6:57	P	HAIR LOSS VENTRAL NECK
				49	6:42	P	HAIR LOSS VENTRAL NECK
				56	6:41	P	HAIR LOSS VENTRAL NECK
				63	6:34	P	HAIR LOSS VENTRAL NECK
				77	6:39	P	HAIR LOSS VENTRAL NECK
				84	6:27	P	HAIR LOSS VENTRAL NECK
11044	M	UNTREATED	BODY/INTEG II	28	6:27	P	SCABBING DORSAL NECK
				49	6:42	P	SCABBING VENTRAL NECK
				63	6:34	P	SCABBING VENTRAL NECK
11053	M	UNTREATED	NORMAL	7	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	90	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11053	M	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11053	M	UNTREATED	BODY/INTEGUMENT	77	6:39	P	HAIR LOSS VENTRAL NECK
				84	6:28	P	HAIR LOSS VENTRAL NECK
11053	M	UNTREATED	BODY/INTEG II	0	8:33	P	SCABBING DORSAL TRUNK
				14	6:34	P	SCABBING DORSAL NECK
11001	M	0 MG/KG/DAY	NORMAL	0	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11001	M	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11001	M	0 MG/KG/DAY	BODY/INTEGUMENT	28	6:38	P	HAIR LOSS DORSAL NECK
				28	6:38	P	HAIR LOSS VENTRAL NECK
				35	7:14	P	HAIR LOSS DORSAL NECK
				35	7:14	P	HAIR LOSS VENTRAL NECK
				49	6:52	P	HAIR LOSS VENTRAL NECK
				49	6:52	P	HAIR LOSS DORSAL NECK
				63	6:43	P	HAIR LOSS VENTRAL NECK
				70	6:46	P	HAIR LOSS VENTRAL NECK
				77	6:52	P	HAIR LOSS VENTRAL NECK
				84	6:40	P	HAIR LOSS DORSAL NECK
				84	6:40	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS DORSAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS FORELIMB(S)
11001	M	0 MG/KG/DAY	EYES/EARS/NOSE	21	6:32	P	DRIED RED MATERIAL AROUND NOSE
11001	M	0 MG/KG/DAY	BODY/INTEG II	7	7:13	P	SCABBING DORSAL NECK
				7	7:13	P	SCABBING RIGHT EAR
				14	6:43	P	SCABBING DORSAL NECK
				28	6:38	P	SCABBING DORSAL NECK
				28	6:38	P	SCABBING VENTRAL NECK
				35	7:14	P	SCABBING DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	BODY/INTEG II	35	7:15	P	SCABBING VENTRAL NECK
				42	8:10	P	SCABBING DORSAL NECK
				49	6:52	P	SCABBING VENTRAL NECK
				49	6:52	P	SCABBING DORSAL NECK
				56	6:50	P	SCABBING VENTRAL NECK
				63	6:43	P	SCABBING VENTRAL NECK
				63	6:43	P	SCABBING DORSAL NECK
				77	6:52	P	SCABBING VENTRAL NECK
				84	6:40	P	SCABBING DORSAL NECK
				84	6:40	P	SCABBING VENTRAL NECK
11009	M	0 MG/KG/DAY	NORMAL	0	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11009	M	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11009	M	0 MG/KG/DAY	BODY/INTEGUMENT	28	6:39	P	HAIR LOSS DORSAL NECK
				28	6:39	P	HAIR LOSS VENTRAL NECK
				35	7:16	P	HAIR LOSS VENTRAL NECK
				49	6:52	P	HAIR LOSS VENTRAL NECK
				63	6:44	P	HAIR LOSS VENTRAL NECK
				70	6:46	P	HAIR LOSS VENTRAL NECK
				77	6:53	P	HAIR LOSS VENTRAL NECK
				84	6:40	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS DORSAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK
11009	M	0 MG/KG/DAY	BODY/INTEG II	49	6:52	P	SCABBING VENTRAL NECK
				56	6:51	P	SCABBING VENTRAL NECK
11010	M	0 MG/KG/DAY	NORMAL	0	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	7	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11010	M	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11010	M	0 MG/KG/DAY	BODY/INTEGUMENT	35	7:16	P	HAIR LOSS VENTRAL NECK
				35	7:16	P	HAIR LOSS DORSAL NECK
				63	6:45	P	HAIR LOSS DORSAL NECK
				63	6:45	P	HAIR LOSS VENTRAL NECK
				77	6:53	P	HAIR LOSS VENTRAL NECK
				84	6:41	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK
11014	M	0 MG/KG/DAY	NORMAL	0	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11014	M	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11014	M	0 MG/KG/DAY	BODY/INTEGUMENT	14	6:45	P	HAIR LOSS FORELIMB(S)
				14	6:45	P	HAIR LOSS DORSAL NECK
				21	6:34	P	HAIR LOSS VENTRAL NECK
				49	6:54	P	HAIR LOSS VENTRAL NECK
				56	6:53	P	HAIR LOSS VENTRAL NECK
				63	6:46	P	HAIR LOSS DORSAL NECK
				63	6:46	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	BODY/INTEGUMENT	77	6:54	P	HAIR LOSS VENTRAL NECK
				84	6:42	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK
11014	M	0 MG/KG/DAY	BODY/INTEG II	7	7:15	P	SCABBING DORSAL NECK
				49	6:54	P	SCABBING DORSAL NECK
				49	6:54	P	SCABBING VENTRAL NECK
				63	6:46	P	SCABBING VENTRAL NECK
				77	6:54	P	SCABBING VENTRAL NECK
				89	6:31	P	SCABBING VENTRAL NECK
11029	M	0 MG/KG/DAY	NORMAL	0	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11029	M	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11029	M	0 MG/KG/DAY	BODY/INTEGUMENT	14	6:45	P	HAIR LOSS DORSAL NECK
				35	7:17	P	HAIR LOSS VENTRAL NECK
				35	7:17	P	HAIR LOSS DORSAL NECK
				49	6:54	P	HAIR LOSS VENTRAL NECK
				63	6:46	P	HAIR LOSS DORSAL NECK
				63	6:46	P	HAIR LOSS VENTRAL NECK
				77	6:55	P	HAIR LOSS DORSAL NECK
				77	6:55	P	HAIR LOSS VENTRAL NECK
				77	6:55	P	MOIST ALOPECIA VENTRAL NECK
				84	6:43	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS DORSAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK
11029	M	0 MG/KG/DAY	BODY/INTEG II	14	6:46	P	SCABBING DORSAL NECK
				49	6:54	P	SCABBING DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	BODY/INTEG II	49	6:54	P	SCABBING VENTRAL NECK
				56	6:53	P	SCABBING VENTRAL NECK
				63	6:46	P	SCABBING DORSAL NECK
				63	6:46	P	SCABBING VENTRAL NECK
				70	6:49	P	SCABBING VENTRAL NECK
				77	6:55	P	SCABBING VENTRAL NECK
				77	6:55	P	SCABBING DORSAL NECK
				84	6:43	P	SCABBING VENTRAL NECK
11033	M	0 MG/KG/DAY	NORMAL	0	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11033	M	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11033	M	0 MG/KG/DAY	BODY/INTEGUMENT	49	6:55	P	HAIR LOSS VENTRAL NECK
				63	6:48	P	HAIR LOSS VENTRAL NECK
				77	6:56	P	MOIST ALOPECIA VENTRAL NECK
				84	6:44	P	HAIR LOSS VENTRAL NECK
11033	M	0 MG/KG/DAY	BODY/INTEG II	7	7:19	P	SCABBING DORSAL NECK
				14	6:46	P	SCABBING DORSAL NECK
				28	6:42	P	SCABBING DORSAL NECK
				49	6:55	P	SCABBING VENTRAL NECK
				56	6:55	P	SCABBING RIGHT LATERAL NECK
				56	6:55	P	SCABBING LEFT LATERAL NECK
				63	6:48	P	SCABBING VENTRAL NECK
				84	6:44	P	SCABBING VENTRAL NECK
11037	M	0 MG/KG/DAY	NORMAL	0	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	21	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11037	M	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11037	M	0 MG/KG/DAY	BODY/INTEGUMENT	28	6:42	P	HAIR LOSS DORSAL NECK
				28	6:42	P	HAIR LOSS VENTRAL NECK
				35	7:19	P	HAIR LOSS VENTRAL NECK
				56	6:55	P	HAIR LOSS VENTRAL NECK
				63	6:49	P	HAIR LOSS VENTRAL NECK
				63	6:49	P	HAIR LOSS DORSAL NECK
				77	6:57	P	HAIR LOSS DORSAL NECK
				77	6:57	P	HAIR LOSS VENTRAL NECK
				84	6:45	P	HAIR LOSS VENTRAL NECK
				84	6:45	P	HAIR LOSS DORSAL NECK
11037	M	0 MG/KG/DAY	BODY/INTEG II	7	7:20	P	SCABBING DORSAL NECK
				28	6:42	P	SCABBING DORSAL NECK
				28	6:42	P	SCABBING VENTRAL NECK
				49	6:56	P	SCABBING VENTRAL NECK
11046	M	0 MG/KG/DAY	NORMAL	0	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11046	M	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11046	M	0 MG/KG/DAY	BODY/INTEGUMENT	49	6:57	P	HAIR LOSS VENTRAL NECK
				56	6:56	P	HAIR LOSS VENTRAL NECK
				63	6:50	P	HAIR LOSS DORSAL NECK
				63	6:50	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	BODY/INTEGUMENT	77	6:58	P	HAIR LOSS DORSAL NECK
				77	6:58	P	HAIR LOSS VENTRAL NECK
				84	6:45	P	HAIR LOSS VENTRAL NECK
11046	M	0 MG/KG/DAY	BODY/INTEG II	7	7:22	P	SCABBING DORSAL NECK
				28	6:43	P	SCABBING DORSAL NECK
				35	7:20	P	SCABBING DORSAL TRUNK
				42	8:16	P	SCABBING DORSAL NECK
				49	6:57	P	SCABBING VENTRAL NECK
				63	6:49	P	SCABBING VENTRAL NECK
11052	M	0 MG/KG/DAY	NORMAL	0	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11052	M	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11052	M	0 MG/KG/DAY	BODY/INTEGUMENT	49	6:58	P	HAIR LOSS VENTRAL NECK
				49	6:58	P	HAIR LOSS DORSAL NECK
				63	6:51	P	HAIR LOSS VENTRAL NECK
				77	6:59	P	HAIR LOSS VENTRAL NECK
				84	6:46	P	HAIR LOSS VENTRAL NECK
11052	M	0 MG/KG/DAY	BODY/INTEG II	7	7:28	P	SCABBING DORSAL NECK
				14	6:48	P	SCABBING DORSAL NECK
				28	6:44	P	SCABBING VENTRAL NECK
				35	7:21	P	SCABBING DORSAL NECK
				35	7:21	P	SCABBING VENTRAL NECK
				42	8:19	P	SCABBING VENTRAL NECK
				63	6:51	P	SCABBING VENTRAL NECK
				77	6:59	P	SCABBING VENTRAL NECK
11057	M	0 MG/KG/DAY	NORMAL	0	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	35	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11057	M	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11057	M	0 MG/KG/DAY	BODY/INTEGUMENT	21	6:38	P	HAIR LOSS VENTRAL NECK
				28	6:45	P	HAIR LOSS DORSAL NECK
				28	6:45	P	HAIR LOSS VENTRAL NECK
				49	6:58	P	HAIR LOSS DORSAL NECK
				49	6:58	P	HAIR LOSS VENTRAL NECK
				56	6:58	P	HAIR LOSS VENTRAL NECK
				63	6:52	P	HAIR LOSS DORSAL NECK
				63	6:52	P	HAIR LOSS VENTRAL NECK
				70	6:53	P	HAIR LOSS DORSAL NECK
				70	6:53	P	HAIR LOSS VENTRAL NECK
				77	6:59	P	HAIR LOSS DORSAL NECK
				77	6:59	P	HAIR LOSS VENTRAL NECK
				84	6:47	P	HAIR LOSS VENTRAL NECK
				84	6:47	P	HAIR LOSS DORSAL NECK
11057	M	0 MG/KG/DAY	BODY/INTEG II	7	7:29	P	SCABBING DORSAL NECK
				14	6:49	P	SCABBING DORSAL NECK
				21	6:39	P	SCABBING VENTRAL NECK
				28	6:45	P	SCABBING DORSAL NECK
				49	6:58	P	SCABBING DORSAL NECK
				49	6:58	P	SCABBING VENTRAL NECK
				63	6:52	P	SCABBING VENTRAL NECK
				77	6:59	P	SCABBING VENTRAL NECK
11006	M	100 MG/KG/DAY	NORMAL	0	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	21	6:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11006	M	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11006	M	100 MG/KG/DAY	BODY/INTEGUMENT	63	7:02	P	HAIR LOSS VENTRAL NECK
				77	7:09	P	HAIR LOSS VENTRAL NECK
				84	7:09	P	HAIR LOSS VENTRAL NECK
				89	6:33	P	HAIR LOSS VENTRAL NECK
11006	M	100 MG/KG/DAY	BODY/INTEG II	28	6:55	P	SCABBING RIGHT LATERAL NECK
				28	6:55	P	SCABBING DORSAL NECK
				35	7:41	P	SCABBING VENTRAL NECK
				49	7:08	P	SCABBING VENTRAL NECK
				56	7:05	P	SCABBING VENTRAL NECK
				63	7:02	P	SCABBING VENTRAL NECK
				77	7:09	P	SCABBING VENTRAL NECK
				84	7:09	P	SCABBING VENTRAL NECK
				89	6:33	P	SCABBING VENTRAL NECK
11019	M	100 MG/KG/DAY	NORMAL	0	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11019	M	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11019	M	100 MG/KG/DAY	BODY/INTEGUMENT	63	7:03	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	BODY/INTEGUMENT	77	7:09	P	HAIR LOSS VENTRAL NECK
				84	7:10	P	HAIR LOSS VENTRAL NECK
				89	6:33	P	HAIR LOSS VENTRAL NECK
11019	M	100 MG/KG/DAY	BODY/INTEG II	63	7:03	P	SCABBING VENTRAL NECK
11020	M	100 MG/KG/DAY	NORMAL	0	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11020	M	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11020	M	100 MG/KG/DAY	BODY/INTEGUMENT	35	7:43	P	HAIR LOSS VENTRAL NECK
				56	7:07	P	HAIR LOSS VENTRAL NECK
				77	7:11	P	HAIR LOSS VENTRAL NECK
				84	7:11	P	HAIR LOSS DORSAL NECK
				84	7:11	P	HAIR LOSS VENTRAL NECK
				89	6:33	P	HAIR LOSS VENTRAL NECK
11020	M	100 MG/KG/DAY	EYES/EARS/NOSE	77	7:11	P	DRIED RED MATERIAL AROUND LEFT EYE
				77	7:11	P	DRIED RED MATERIAL AROUND RIGHT EYE
11020	M	100 MG/KG/DAY	ORAL/DENTAL	77	7:10	P	WET CLEAR MATERIAL AROUND MOUTH
				77	7:10	P	WET CLEAR MATERIAL VENTRAL NECK
				77	7:11	P	WET CLEAR MATERIAL FORELIMB(S)
11025	M	100 MG/KG/DAY	NORMAL	0	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 17

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	42	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11025	M	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11025	M	100 MG/KG/DAY	BODY/INTEGUMENT	35	7:43	P	HAIR LOSS VENTRAL NECK
				35	7:43	P	HAIR LOSS DORSAL NECK
				77	7:12	P	HAIR LOSS VENTRAL NECK
				84	7:11	P	HAIR LOSS VENTRAL NECK
				89	6:33	P	HAIR LOSS VENTRAL NECK
11025	M	100 MG/KG/DAY	BODY/INTEG II	14	6:57	P	SCABBING DORSAL NECK
				84	7:11	P	SCABBING VENTRAL NECK
11028	M	100 MG/KG/DAY	NORMAL	0	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11028	M	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11028	M	100 MG/KG/DAY	BODY/INTEGUMENT	63	7:05	P	HAIR LOSS DORSAL NECK
				63	7:05	P	HAIR LOSS VENTRAL NECK
				77	7:13	P	HAIR LOSS VENTRAL NECK
				84	7:12	P	HAIR LOSS VENTRAL NECK
				89	6:34	P	HAIR LOSS VENTRAL NECK
11028	M	100 MG/KG/DAY	BODY/INTEG II	49	7:11	P	SCABBING VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	BODY/INTEG II	63	7:05	P	SCABBING DORSAL NECK
				63	7:05	P	SCABBING VENTRAL NECK
11045	M	100 MG/KG/DAY	NORMAL	0	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11045	M	100 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11045	M	100 MG/KG/DAY	BODY/INTEGUMENT	35	7:45	P	HAIR LOSS VENTRAL NECK
				35	7:45	P	HAIR LOSS DORSAL NECK
				49	7:12	P	HAIR LOSS VENTRAL NECK
				63	7:06	P	HAIR LOSS DORSAL NECK
				63	7:06	P	HAIR LOSS VENTRAL NECK
				70	7:05	P	HAIR LOSS DORSAL NECK
				70	7:05	P	HAIR LOSS VENTRAL NECK
				77	7:14	P	HAIR LOSS VENTRAL NECK
				84	7:13	P	HAIR LOSS DORSAL NECK
				84	7:13	P	HAIR LOSS VENTRAL NECK
				90	7:18	P	HAIR LOSS VENTRAL NECK
11045	M	100 MG/KG/DAY	BODY/INTEG II	28	6:59	P	SCABBING DORSAL NECK
				28	6:59	P	SCABBING RIGHT LATERAL NECK
				28	6:59	P	SCABBING LEFT LATERAL NECK
				35	7:45	P	SCABBING DORSAL NECK
				49	7:12	P	SCABBING VENTRAL NECK
				63	7:06	P	SCABBING VENTRAL NECK
				77	7:14	P	SCABBING VENTRAL NECK
11047	M	100 MG/KG/DAY	NORMAL	0	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	21	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11047	M	100 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11047	M	100 MG/KG/DAY	BODY/INTEGUMENT	14	6:59	P	HAIR LOSS FACIAL AREA
				63	7:06	P	HAIR LOSS VENTRAL NECK
				77	7:14	P	HAIR LOSS VENTRAL NECK
				84	7:14	P	HAIR LOSS VENTRAL NECK
11048	M	100 MG/KG/DAY	NORMAL	0	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11048	M	100 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11048	M	100 MG/KG/DAY	BODY/INTEGUMENT	21	6:52	P	HAIR LOSS FORELIMB(S)
				35	7:46	P	HAIR LOSS FORELIMB(S)
				35	7:46	P	HAIR LOSS VENTRAL NECK
				35	7:46	P	HAIR LOSS DORSAL NECK
				49	7:13	P	HAIR LOSS FORELIMB(S)
				56	7:10	P	HAIR LOSS FORELIMB(S)
				63	7:07	P	HAIR LOSS FORELIMB(S)
				63	7:07	P	HAIR LOSS VENTRAL NECK
				70	7:06	P	HAIR LOSS FORELIMB(S)
				77	7:15	P	HAIR LOSS FORELIMB(S)
				77	7:15	P	HAIR LOSS DORSAL NECK
				77	7:15	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	BODY/INTEGUMENT	84	7:14	P	HAIR LOSS DORSAL NECK
				84	7:14	P	HAIR LOSS VENTRAL NECK
11048	M	100 MG/KG/DAY	EYES/EARS/NOSE	7	7:45	P	DRIED RED MATERIAL AROUND NOSE
11048	M	100 MG/KG/DAY	BODY/INTEG II	7	7:45	P	SCABBING DORSAL NECK
				14	6:59	P	SCABBING DORSAL NECK
				90	7:19	P	SCABBING VENTRAL NECK
11050	M	100 MG/KG/DAY	NORMAL	0	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11050	M	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11050	M	100 MG/KG/DAY	BODY/INTEGUMENT	21	6:52	P	HAIR LOSS VENTRAL NECK
				56	7:11	P	HAIR LOSS VENTRAL NECK
				63	7:08	P	HAIR LOSS DORSAL NECK
				63	7:08	P	HAIR LOSS VENTRAL NECK
				70	7:07	P	HAIR LOSS DORSAL NECK
				70	7:07	P	HAIR LOSS VENTRAL NECK
				77	7:16	P	HAIR LOSS DORSAL NECK
				77	7:16	P	HAIR LOSS VENTRAL NECK
				84	7:15	P	HAIR LOSS DORSAL NECK
				84	7:15	P	HAIR LOSS VENTRAL NECK
11050	M	100 MG/KG/DAY	BODY/INTEG II	14	7:00	P	SCABBING DORSAL NECK
				21	6:52	P	SCABBING VENTRAL NECK
				28	7:02	P	SCABBING DORSAL NECK
				28	7:02	P	SCABBING RIGHT LATERAL NECK
				28	7:02	P	SCABBING LEFT LATERAL NECK
				35	7:47	P	SCABBING DORSAL NECK
				35	7:47	P	SCABBING VENTRAL NECK
				49	7:13	P	SCABBING DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	BODY/INTEG II	56	7:11	P	SCABBING RIGHT LATERAL NECK
11054	M	100 MG/KG/DAY	NORMAL	0	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11054	M	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11054	M	100 MG/KG/DAY	BODY/INTEGUMENT	14	7:01	P	HAIR LOSS DORSAL NECK
				28	7:03	P	HAIR LOSS DORSAL NECK
				28	7:03	P	HAIR LOSS VENTRAL NECK
				35	7:48	P	HAIR LOSS VENTRAL NECK
				35	7:48	P	HAIR LOSS DORSAL NECK
				63	7:09	P	HAIR LOSS DORSAL NECK
				63	7:09	P	HAIR LOSS VENTRAL NECK
				70	7:08	P	HAIR LOSS DORSAL NECK
				70	7:08	P	HAIR LOSS VENTRAL NECK
				77	7:17	P	HAIR LOSS DORSAL NECK
				77	7:17	P	HAIR LOSS VENTRAL NECK
				84	7:16	P	HAIR LOSS VENTRAL NECK
11054	M	100 MG/KG/DAY	BODY/INTEG II	14	7:00	P	SCABBING DORSAL NECK
				14	7:00	P	SCABBING VENTRAL NECK
				56	7:11	P	SCABBING VENTRAL NECK
11003	M	300 MG/KG/DAY	NORMAL	0	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	42	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11003	M	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11003	M	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:16	P	HAIR LOSS VENTRAL NECK
				77	7:25	P	HAIR LOSS VENTRAL NECK
				84	7:25	P	HAIR LOSS VENTRAL NECK
				89	6:35	P	HAIR LOSS VENTRAL NECK
11003	M	300 MG/KG/DAY	BODY/INTEG II	49	7:21	P	SCABBING VENTRAL NECK
				84	7:25	P	SCABBING VENTRAL NECK
11005	M	300 MG/KG/DAY	NORMAL	0	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11005	M	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11005	M	300 MG/KG/DAY	BODY/INTEGUMENT	14	7:09	P	HAIR LOSS FACIAL AREA
				35	8:13	P	HAIR LOSS VENTRAL NECK
				49	7:21	P	HAIR LOSS VENTRAL NECK
				56	7:21	P	HAIR LOSS VENTRAL NECK
				63	7:17	P	HAIR LOSS VENTRAL NECK
				70	7:17	P	HAIR LOSS VENTRAL NECK
				77	7:26	P	HAIR LOSS VENTRAL NECK
				84	7:25	P	HAIR LOSS VENTRAL NECK
				89	6:35	P	HAIR LOSS VENTRAL NECK
11005	M	300 MG/KG/DAY	EYES/EARS/NOSE	7	7:59	P	DRIED RED MATERIAL AROUND RIGHT EYE
11005	M	300 MG/KG/DAY	BODY/INTEG II	7	7:59	P	SCABBING FACIAL AREA
				7	7:59	P	SCABBING DORSAL NECK
				14	7:09	P	SCABBING DORSAL NECK
				14	7:09	P	SCABBING FACIAL AREA
				21	7:03	P	SCABBING VENTRAL NECK
				28	7:21	P	SCABBING DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	BODY/INTEG II	63	7:17	P	SCABBING VENTRAL NECK
11007	M	300 MG/KG/DAY	NORMAL	0	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11007	M	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11007	M	300 MG/KG/DAY	BODY/INTEGUMENT	77	7:26	P	HAIR LOSS VENTRAL NECK
				89	6:35	P	HAIR LOSS VENTRAL NECK
11007	M	300 MG/KG/DAY	BODY/INTEG II	28	7:22	P	SCABBING RIGHT LATERAL NECK
				28	7:22	P	SCABBING LEFT LATERAL NECK
11008	M	300 MG/KG/DAY	NORMAL	0	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11008	M	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11008	M	300 MG/KG/DAY	BODY/INTEGUMENT	35	8:14	P	HAIR LOSS VENTRAL NECK
				35	8:14	P	HAIR LOSS DORSAL NECK
				49	7:23	P	HAIR LOSS VENTRAL NECK
				63	7:18	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	BODY/INTEGUMENT	77	7:27	P	HAIR LOSS VENTRAL NECK
				84	7:27	P	HAIR LOSS VENTRAL NECK
11008	M	300 MG/KG/DAY	BODY/INTEG II	14	7:12	P	SCABBING DORSAL NECK
				28	7:23	P	SCABBING LEFT LATERAL NECK
11017	M	300 MG/KG/DAY	NORMAL	0	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11017	M	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11017	M	300 MG/KG/DAY	BODY/INTEGUMENT	49	7:23	P	HAIR LOSS VENTRAL NECK
				77	7:28	P	HAIR LOSS VENTRAL NECK
				84	7:27	P	HAIR LOSS VENTRAL NECK
				89	6:36	P	HAIR LOSS VENTRAL NECK
11018	M	300 MG/KG/DAY	NORMAL	0	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	90	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11018	M	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11018	M	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:19	P	HAIR LOSS VENTRAL NECK
				77	7:28	P	HAIR LOSS VENTRAL NECK
				84	7:28	P	HAIR LOSS VENTRAL NECK
11027	M	300 MG/KG/DAY	NORMAL	0	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11027	M	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11027	M	300 MG/KG/DAY	BODY/INTEGUMENT	35	8:16	P	HAIR LOSS VENTRAL NECK
				49	7:25	P	HAIR LOSS VENTRAL NECK
				49	7:25	P	HAIR LOSS FORELIMB(S)
				56	7:24	P	HAIR LOSS FORELIMB(S)
				63	7:20	P	HAIR LOSS VENTRAL NECK
				70	7:22	P	HAIR LOSS FORELIMB(S)
				77	7:29	P	HAIR LOSS VENTRAL NECK
11031	M	300 MG/KG/DAY	NORMAL	0	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	63	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11031	M	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11031	M	300 MG/KG/DAY	BODY/INTEGUMENT	42	9:11	P	HAIR LOSS FORELIMB(S)
				77	7:30	P	HAIR LOSS VENTRAL NECK
				84	7:30	P	HAIR LOSS VENTRAL NECK
11038	M	300 MG/KG/DAY	NORMAL	0	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11038	M	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11038	M	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:21	P	HAIR LOSS VENTRAL NECK
				77	7:30	P	HAIR LOSS VENTRAL NECK
				84	7:31	P	HAIR LOSS VENTRAL NECK
11043	M	300 MG/KG/DAY	NORMAL	0	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	49	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11043	M	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11043	M	300 MG/KG/DAY	BODY/INTEGUMENT	56	7:27	P	HAIR LOSS FORELIMB(S)
				63	7:22	P	HAIR LOSS FORELIMB(S)
				63	7:22	P	HAIR LOSS DORSAL NECK
				63	7:22	P	HAIR LOSS VENTRAL NECK
				70	7:24	P	HAIR LOSS FORELIMB(S)
				77	7:31	P	HAIR LOSS FORELIMB(S)
				77	7:31	P	HAIR LOSS DORSAL NECK
				77	7:31	P	HAIR LOSS VENTRAL NECK
				84	7:31	P	HAIR LOSS FORELIMB(S)
				84	7:31	P	HAIR LOSS DORSAL NECK
				84	7:31	P	HAIR LOSS VENTRAL NECK
				90	7:22	P	HAIR LOSS FORELIMB(S)
11043	M	300 MG/KG/DAY	BODY/INTEG II	63	7:22	P	SCABBING VENTRAL NECK
11024	M	600 MG/KG/DAY	NORMAL	0	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11024	M	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11024	M	600 MG/KG/DAY	BODY/INTEGUMENT	77	7:43	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	BODY/INTEGUMENT	84	7:42	P	HAIR LOSS VENTRAL NECK
11030	M	600 MG/KG/DAY	NORMAL	0	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11030	M	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11030	M	600 MG/KG/DAY	BODY/INTEGUMENT	49	7:36	P	HAIR LOSS DORSAL NECK
				49	7:36	P	HAIR LOSS VENTRAL NECK
				56	7:37	P	HAIR LOSS DORSAL NECK
				56	7:37	P	HAIR LOSS VENTRAL NECK
				63	7:33	P	HAIR LOSS DORSAL NECK
				63	7:33	P	HAIR LOSS VENTRAL NECK
				77	7:44	P	HAIR LOSS DORSAL NECK
				77	7:44	P	HAIR LOSS VENTRAL NECK
				84	7:42	P	HAIR LOSS DORSAL NECK
				84	7:42	P	HAIR LOSS VENTRAL NECK
				89	6:37	P	HAIR LOSS FORELIMB(S)
				89	6:37	P	HAIR LOSS DORSAL NECK
				89	6:37	P	HAIR LOSS VENTRAL NECK
11030	M	600 MG/KG/DAY	BODY/INTEG II	28	7:36	P	SCABBING DORSAL NECK
				35	8:39	P	SCABBING LEFT LATERAL NECK
				49	7:36	P	SCABBING DORSAL NECK
				77	7:44	P	SCABBING DORSAL NECK
				77	7:44	P	SCABBING VENTRAL NECK
				84	7:42	P	SCABBING DORSAL NECK
				84	7:42	P	SCABBING VENTRAL NECK
11034	M	600 MG/KG/DAY	NORMAL	0	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 29

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	7	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11034	M	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11034	M	600 MG/KG/DAY	BODY/INTEGUMENT	63	7:33	P	HAIR LOSS VENTRAL NECK
				77	7:44	P	HAIR LOSS VENTRAL NECK
				84	7:43	P	HAIR LOSS VENTRAL NECK
				89	6:37	P	HAIR LOSS VENTRAL NECK
11034	M	600 MG/KG/DAY	BODY/INTEG II	49	7:37	P	SCABBING DORSAL NECK
11035	M	600 MG/KG/DAY	NORMAL	0	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11035	M	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11035	M	600 MG/KG/DAY	BODY/INTEGUMENT	63	7:34	P	HAIR LOSS VENTRAL NECK
				77	7:45	P	HAIR LOSS VENTRAL NECK
				84	7:44	P	HAIR LOSS VENTRAL NECK
				89	6:38	P	HAIR LOSS VENTRAL NECK
11035	M	600 MG/KG/DAY	BODY/INTEG II	49	7:38	P	SCABBING VENTRAL NECK
				56	7:39	P	SCABBING VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	0	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11004	M	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11004	M	600 MG/KG/DAY	BODY/INTEGUMENT	63	7:35	P	HAIR LOSS VENTRAL NECK
				77	7:46	P	HAIR LOSS VENTRAL NECK
				84	7:45	P	HAIR LOSS DORSAL NECK
				84	7:45	P	HAIR LOSS VENTRAL NECK
				89	6:38	P	HAIR LOSS VENTRAL NECK
11004	M	600 MG/KG/DAY	EXCRETA	7	8:25	P	SOFT FECES
11004	M	600 MG/KG/DAY	BODY/INTEG II	7	8:25	P	SCABBING DORSAL NECK
				14	7:26	P	SCABBING DORSAL NECK
				49	7:38	P	SCABBING VENTRAL NECK
11042	M	600 MG/KG/DAY	NORMAL	0	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11042	M	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11042	M	600 MG/KG/DAY	BODY/INTEGUMENT	35	8:42	P	HAIR LOSS VENTRAL NECK
				35	8:42	P	HAIR LOSS DORSAL NECK
				63	7:36	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	BODY/INTEGUMENT	77	7:47	P	HAIR LOSS VENTRAL NECK
				84	7:45	P	HAIR LOSS DORSAL NECK
				84	7:45	P	HAIR LOSS VENTRAL NECK
11042	M	600 MG/KG/DAY	BODY/INTEG II	7	8:27	P	SCABBING DORSAL NECK
				49	7:39	P	SCABBING DORSAL NECK
				63	7:35	P	SCABBING DORSAL NECK
11049	M	600 MG/KG/DAY	NORMAL	0	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11049	M	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11049	M	600 MG/KG/DAY	BODY/INTEGUMENT	35	8:42	P	HAIR LOSS VENTRAL NECK
				56	7:41	P	HAIR LOSS VENTRAL NECK
				63	7:36	P	HAIR LOSS VENTRAL NECK
				70	7:38	P	HAIR LOSS VENTRAL NECK
				77	7:47	P	HAIR LOSS VENTRAL NECK
				84	7:46	P	HAIR LOSS FORELIMB(S)
				84	7:46	P	HAIR LOSS VENTRAL NECK
11049	M	600 MG/KG/DAY	BODY/INTEG II	7	8:28	P	SCABBING FACIAL AREA
				49	7:40	P	SCABBING VENTRAL NECK
				63	7:36	P	SCABBING VENTRAL NECK
11058	M	600 MG/KG/DAY	NORMAL	0	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	49	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11058	M	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11058	M	600 MG/KG/DAY	BODY/INTEGUMENT	77	7:48	P	HAIR LOSS VENTRAL NECK
				84	7:47	P	HAIR LOSS VENTRAL NECK
11058	M	600 MG/KG/DAY	BODY/INTEG II	14	7:27	P	SCABBING DORSAL NECK
				77	7:48	P	SCABBING VENTRAL NECK
11059	M	600 MG/KG/DAY	NORMAL	0	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11059	M	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11059	M	600 MG/KG/DAY	BODY/INTEGUMENT	28	7:41	P	HAIR LOSS DORSAL NECK
				28	7:41	P	HAIR LOSS VENTRAL NECK
				35	8:43	P	HAIR LOSS VENTRAL NECK
				35	8:43	P	HAIR LOSS DORSAL NECK
				49	7:41	P	HAIR LOSS DORSAL NECK
				49	7:41	P	HAIR LOSS VENTRAL NECK
				56	7:42	P	HAIR LOSS VENTRAL NECK
				63	7:37	P	HAIR LOSS DORSAL NECK
				63	7:37	P	HAIR LOSS VENTRAL NECK
				70	7:39	P	HAIR LOSS DORSAL NECK
				70	7:39	P	HAIR LOSS VENTRAL NECK
				77	7:49	P	HAIR LOSS DORSAL NECK
				77	7:49	P	HAIR LOSS VENTRAL NECK
				84	7:48	P	HAIR LOSS DORSAL NECK
				84	7:48	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	BODY/INTEGUMENT	90	7:24	P	HAIR LOSS DORSAL NECK
11059	M	600 MG/KG/DAY	BODY/INTEG II	7	8:30	P	SCABBING DORSAL NECK
				14	7:28	P	SCABBING DORSAL NECK
				28	7:41	P	SCABBING DORSAL NECK
				28	7:41	P	SCABBING VENTRAL NECK
				35	8:43	P	SCABBING DORSAL TRUNK
				49	7:41	P	SCABBING VENTRAL NECK
				56	7:43	P	SCABBING FACIAL AREA
11060	M	600 MG/KG/DAY	NORMAL	7	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11060	M	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11060	M	600 MG/KG/DAY	BEHAVIOR/CNS	0	9:34	P	VOCALIZATION DURING HANDLING
11060	M	600 MG/KG/DAY	BODY/INTEGUMENT	49	7:43	P	HAIR LOSS DORSAL NECK
				49	7:43	P	HAIR LOSS VENTRAL NECK
				56	7:43	P	HAIR LOSS VENTRAL NECK
				63	7:38	P	HAIR LOSS DORSAL NECK
				63	7:38	P	HAIR LOSS VENTRAL NECK
				70	7:40	P	HAIR LOSS DORSAL NECK
				70	7:40	P	HAIR LOSS VENTRAL NECK
				77	7:50	P	HAIR LOSS DORSAL NECK
				77	7:50	P	HAIR LOSS VENTRAL NECK
				84	7:48	P	HAIR LOSS DORSAL NECK
				84	7:48	P	HAIR LOSS VENTRAL NECK
				90	7:24	P	HAIR LOSS DORSAL NECK
11060	M	600 MG/KG/DAY	BODY/INTEG II	49	7:43	P	SCABBING DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	BODY/INTEG II	49	7:43	P	SCABBING VENTRAL NECK
11069	F	UNTREATED	NORMAL	0	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11069	F	UNTREATED	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11069	F	UNTREATED	BODY/INTEGUMENT	49	6:44	P	HAIR LOSS VENTRAL NECK
				89	6:28	P	HAIR LOSS VENTRAL NECK
11082	F	UNTREATED	NORMAL	0	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 35

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	89	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11082	F	UNTREATED	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11088	F	UNTREATED	NORMAL	0	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11088	F	UNTREATED	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11089	F	UNTREATED	NORMAL	0	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11089	F	UNTREATED	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11089	F	UNTREATED	BODY/INTEGUMENT	35	7:03	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 36

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	BODY/INTEGUMENT	63	6:37	P	HAIR LOSS VENTRAL NECK
				77	6:43	P	HAIR LOSS VENTRAL NECK
				84	6:31	P	HAIR LOSS VENTRAL NECK
11090	F	UNTREATED	NORMAL	0	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11090	F	UNTREATED	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11091	F	UNTREATED	NORMAL	0	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11091	F	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11091	F	UNTREATED	BODY/INTEGUMENT	28	6:33	P	HAIR LOSS DORSAL NECK
				28	6:33	P	HAIR LOSS VENTRAL NECK
				35	7:04	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 37

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	BODY/INTEGUMENT	49	6:47	P	HAIR LOSS VENTRAL NECK
				56	6:46	P	HAIR LOSS VENTRAL NECK
				63	6:39	P	HAIR LOSS VENTRAL NECK
				77	6:44	P	HAIR LOSS VENTRAL NECK
				84	6:32	P	HAIR LOSS DORSAL NECK
				84	6:32	P	HAIR LOSS VENTRAL NECK
11091	F	UNTREATED	BODY/INTEG II	28	6:33	P	SCABBING DORSAL NECK
				56	6:46	P	SCABBING DORSAL NECK
				63	6:39	P	SCABBING DORSAL NECK
11092	F	UNTREATED	NORMAL	0	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11092	F	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11092	F	UNTREATED	BODY/INTEGUMENT	49	6:47	P	HAIR LOSS VENTRAL NECK
				56	6:47	P	HAIR LOSS VENTRAL NECK
				63	6:39	P	HAIR LOSS DORSAL NECK
				63	6:39	P	HAIR LOSS VENTRAL NECK
				77	6:45	P	HAIR LOSS VENTRAL NECK
				84	6:33	P	HAIR LOSS DORSAL NECK
				84	6:33	P	HAIR LOSS VENTRAL NECK
				90	7:15	P	HAIR LOSS DORSAL NECK
11092	F	UNTREATED	BODY/INTEG II	28	6:33	P	SCABBING DORSAL NECK
11093	F	UNTREATED	NORMAL	0	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 38

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	21	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11093	F	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11093	F	UNTREATED	BODY/INTEGUMENT	63	6:40	P	HAIR LOSS DORSAL NECK
				63	6:40	P	HAIR LOSS VENTRAL NECK
				84	6:34	P	HAIR LOSS VENTRAL NECK
11098	F	UNTREATED	NORMAL	0	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	6:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11098	F	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11098	F	UNTREATED	BODY/INTEGUMENT	63	6:41	P	HAIR LOSS VENTRAL NECK
				84	6:35	P	HAIR LOSS VENTRAL NECK
11115	F	UNTREATED	NORMAL	0	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	7	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11115	F	UNTREATED	DISPOSITION	90	7:34	P	PRIMARY NECROPSY (WEEK 12)
11115	F	UNTREATED	BODY/INTEGUMENT	28	6:35	P	HAIR LOSS FORELIMB(S)
				56	6:49	P	HAIR LOSS VENTRAL NECK
				63	6:41	P	HAIR LOSS VENTRAL NECK
				77	6:46	P	HAIR LOSS VENTRAL NECK
				84	6:35	P	HAIR LOSS VENTRAL NECK
11115	F	UNTREATED	BODY/INTEG II	49	6:49	P	SCABBING VENTRAL NECK
11114	F	0 MG/KG/DAY	NORMAL	0	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11114	F	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11114	F	0 MG/KG/DAY	BODY/INTEGUMENT	63	6:53	P	HAIR LOSS VENTRAL NECK
				89	6:31	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	0	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11070	F	0 MG/KG/DAY	DISPOSITION	89	7:57	P	PRIMARY NECROPSY (WEEK 12)
11070	F	0 MG/KG/DAY	BODY/INTEGUMENT	35	7:23	P	HAIR LOSS VENTRAL NECK
				49	7:00	P	HAIR LOSS DORSAL NECK
				49	7:00	P	HAIR LOSS VENTRAL NECK
				56	6:59	P	HAIR LOSS VENTRAL NECK
				63	6:54	P	HAIR LOSS DORSAL NECK
				63	6:54	P	HAIR LOSS VENTRAL NECK
				70	6:54	P	HAIR LOSS DORSAL NECK
				77	7:01	P	HAIR LOSS DORSAL NECK
				77	7:01	P	HAIR LOSS VENTRAL NECK
				84	6:49	P	HAIR LOSS DORSAL NECK
				84	6:49	P	HAIR LOSS VENTRAL NECK
				89	6:32	P	HAIR LOSS DORSAL NECK
				89	6:32	P	HAIR LOSS VENTRAL NECK
11070	F	0 MG/KG/DAY	BODY/INTEG II	35	7:23	P	SCABBING DORSAL TRUNK
				42	8:22	P	SCABBING DORSAL NECK
				49	7:01	P	SCABBING DORSAL NECK
11074	F	0 MG/KG/DAY	NORMAL	0	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11074	F	0 MG/KG/DAY	BODY/INTEGUMENT	49	7:01	P	HAIR LOSS VENTRAL NECK
				56	7:00	P	HAIR LOSS VENTRAL NECK
				63	6:55	P	HAIR LOSS VENTRAL NECK
				70	6:55	P	HAIR LOSS VENTRAL NECK
				77	7:01	P	HAIR LOSS VENTRAL NECK
				84	6:49	P	HAIR LOSS VENTRAL NECK
11074	F	0 MG/KG/DAY	BODY/INTEG II	42	8:24	P	SCABBING LEFT LATERAL NECK
				49	7:01	P	SCABBING VENTRAL NECK
				49	7:01	P	SCABBING DORSAL NECK
				56	7:00	P	SCABBING LEFT LATERAL NECK
				63	6:55	P	SCABBING VENTRAL NECK
				84	6:50	P	SCABBING VENTRAL NECK
11079	F	0 MG/KG/DAY	NORMAL	0	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11079	F	0 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11079	F	0 MG/KG/DAY	EYES/EARS/NOSE	21	6:41	P	DRIED RED MATERIAL AROUND NOSE
11084	F	0 MG/KG/DAY	NORMAL	0	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	7	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11084	F	0 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11084	F	0 MG/KG/DAY	BODY/INTEGUMENT	21	6:42	P	HAIR LOSS VENTRAL NECK
				21	6:42	P	HAIR LOSS DORSAL NECK
				28	6:49	P	HAIR LOSS DORSAL NECK
				28	6:49	P	HAIR LOSS VENTRAL NECK
				35	7:26	P	HAIR LOSS VENTRAL NECK
				49	7:03	P	HAIR LOSS DORSAL NECK
				49	7:03	P	HAIR LOSS VENTRAL NECK
				63	6:56	P	HAIR LOSS VENTRAL NECK
				70	6:56	P	HAIR LOSS VENTRAL NECK
				77	7:03	P	HAIR LOSS VENTRAL NECK
				84	6:51	P	HAIR LOSS VENTRAL NECK
11084	F	0 MG/KG/DAY	BODY/INTEG II	21	6:42	P	SCABBING VENTRAL NECK
				21	6:42	P	SCABBING DORSAL NECK
				28	6:49	P	SCABBING DORSAL NECK
				28	6:49	P	SCABBING VENTRAL NECK
11087	F	0 MG/KG/DAY	NORMAL	0	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	63	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11087	F	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11087	F	0 MG/KG/DAY	BODY//INTEGUMENT	84	6:52	P	HAIR LOSS VENTRAL NECK
11087	F	0 MG/KG/DAY	BODY//INTEG II	49	7:04	P	SCABBING DORSAL NECK
11099	F	0 MG/KG/DAY	NORMAL	0	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11099	F	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11099	F	0 MG/KG/DAY	BODY//INTEGUMENT	63	6:57	P	HAIR LOSS VENTRAL NECK
				84	6:53	P	HAIR LOSS VENTRAL NECK
11110	F	0 MG/KG/DAY	NORMAL	0	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	56	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11110	F	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11110	F	0 MG/KG/DAY	BODY/INTEGUMENT	49	7:05	P	HAIR LOSS VENTRAL NECK
				63	6:58	P	HAIR LOSS VENTRAL NECK
				70	6:58	P	HAIR LOSS VENTRAL NECK
				84	6:54	P	HAIR LOSS VENTRAL NECK
11111	F	0 MG/KG/DAY	NORMAL	0	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11111	F	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11111	F	0 MG/KG/DAY	BODY/INTEGUMENT	63	6:59	P	HAIR LOSS VENTRAL NECK
				84	6:55	P	HAIR LOSS VENTRAL NECK
11116	F	0 MG/KG/DAY	NORMAL	0	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	49	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11116	F	0 MG/KG/DAY	DISPOSITION	90	7:35	P	PRIMARY NECROPSY (WEEK 12)
11116	F	0 MG/KG/DAY	BODY//INTEGUMENT	35	7:30	P	HAIR LOSS VENTRAL NECK
11071	F	100 MG/KG/DAY	NORMAL	0	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11071	F	100 MG/KG/DAY	DISPOSITION	89	7:58	P	PRIMARY NECROPSY (WEEK 12)
11071	F	100 MG/KG/DAY	BODY//INTEGUMENT	77	7:17	P	HAIR LOSS VENTRAL NECK
11072	F	100 MG/KG/DAY	NORMAL	0	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	35	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11072	F	100 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11073	F	100 MG/KG/DAY	NORMAL	0	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11073	F	100 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11076	F	100 MG/KG/DAY	NORMAL	0	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	28	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11076	F	100 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11076	F	100 MG/KG/DAY	BODY/INTEGUMENT	63	7:12	P	HAIR LOSS VENTRAL NECK
				89	6:34	P	HAIR LOSS VENTRAL NECK
11078	F	100 MG/KG/DAY	NORMAL	0	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11078	F	100 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11078	F	100 MG/KG/DAY	BODY/INTEGUMENT	35	7:52	P	HAIR LOSS VENTRAL NECK
11078	F	100 MG/KG/DAY	EYES/EARS/NOSE	42	8:54	P	DRIED RED MATERIAL AROUND NOSE
11083	F	100 MG/KG/DAY	NORMAL	0	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	21	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11083	F	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11086	F	100 MG/KG/DAY	NORMAL	7	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11086	F	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11086	F	100 MG/KG/DAY	BODY/INTEG II	0	9:08	P	SCABBING DORSAL TRUNK
				56	7:17	P	SCABBING LEFT LATERAL NECK
11101	F	100 MG/KG/DAY	NORMAL	0	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	14	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11101	F	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11102	F	100 MG/KG/DAY	NORMAL	0	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11102	F	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11102	F	100 MG/KG/DAY	BODY/INTEG II	63	7:15	P	SCABBING DORSAL NECK
11113	F	100 MG/KG/DAY	NORMAL	0	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	14	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11113	F	100 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11113	F	100 MG/KG/DAY	BODY/INTEGUMENT	84	7:24	P	HAIR LOSS VENTRAL NECK
11113	F	100 MG/KG/DAY	EYES/EARS/NOSE	7	7:56	P	DRIED RED MATERIAL AROUND NOSE
				7	7:56	P	DRIED RED MATERIAL AROUND RIGHT EYE
				7	7:56	P	DRIED RED MATERIAL AROUND LEFT EYE
				21	7:00	P	DRIED RED MATERIAL AROUND NOSE
11066	F	300 MG/KG/DAY	NORMAL	0	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11066	F	300 MG/KG/DAY	BODY/INTEGUMENT	89	6:36	P	HAIR LOSS VENTRAL NECK
11075	F	300 MG/KG/DAY	NORMAL	0	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11075	F	300 MG/KG/DAY	DISPOSITION	89	7:59	P	PRIMARY NECROPSY (WEEK 12)
11075	F	300 MG/KG/DAY	BODY/INTEGUMENT	84	7:34	P	HAIR LOSS VENTRAL NECK
				89	6:36	P	HAIR LOSS VENTRAL NECK
11075	F	300 MG/KG/DAY	CARDIO-PULMONARY	77	7:34	P	RALES
11075	F	300 MG/KG/DAY	ORAL/DENTAL	77	7:34	P	WET CLEAR MATERIAL AROUND MOUTH
				77	7:34	P	WET CLEAR MATERIAL VENTRAL NECK
				77	7:35	P	WET CLEAR MATERIAL FORELIMB(S)
11077	F	300 MG/KG/DAY	NORMAL	0	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 52

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	70	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11077	F	300 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11077	F	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:25	P	HAIR LOSS VENTRAL NECK
				77	7:36	P	HAIR LOSS VENTRAL NECK
				84	7:35	P	HAIR LOSS DORSAL NECK
				84	7:35	P	HAIR LOSS VENTRAL NECK
				89	6:36	P	HAIR LOSS DORSAL NECK
				89	6:36	P	HAIR LOSS VENTRAL NECK
11077	F	300 MG/KG/DAY	BODY/INTEG II	84	7:35	P	SCABBING DORSAL NECK
				84	7:35	P	SCABBING VENTRAL NECK
11080	F	300 MG/KG/DAY	NORMAL	0	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11080	F	300 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11080	F	300 MG/KG/DAY	BODY/INTEGUMENT	14	7:19	P	HAIR LOSS FACIAL AREA
11085	F	300 MG/KG/DAY	NORMAL	0	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	28	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11085	F	300 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11085	F	300 MG/KG/DAY	BODY/INTEGUMENT	84	7:36	P	HAIR LOSS DORSAL NECK
				84	7:36	P	HAIR LOSS VENTRAL NECK
11094	F	300 MG/KG/DAY	NORMAL	0	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11094	F	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11103	F	300 MG/KG/DAY	NORMAL	0	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	14	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11103	F	300 MG/KG/DAY	DISPOSITION	90	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	0	9:26	P	PRIMARY NECROPSY (WEEK 12)
				7	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11105	F	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11105	F	300 MG/KG/DAY	BODY/INTEGUMENT	35	8:30	P	HAIR LOSS VENTRAL NECK
				63	7:29	P	HAIR LOSS DORSAL NECK
				63	7:29	P	HAIR LOSS VENTRAL NECK
				77	7:40	P	HAIR LOSS VENTRAL NECK
				84	7:39	P	HAIR LOSS DORSAL NECK
				84	7:39	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	BODY/INTEGUMENT	90	7:22	P	HAIR LOSS DORSAL NECK
11106	F	300 MG/KG/DAY	NORMAL	0	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11106	F	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)
11106	F	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:29	P	HAIR LOSS VENTRAL NECK
				77	7:41	P	HAIR LOSS VENTRAL NECK
				84	7:40	P	HAIR LOSS VENTRAL NECK
11106	F	300 MG/KG/DAY	BODY/INTEG II	63	7:29	P	SCABBING DORSAL NECK
11119	F	300 MG/KG/DAY	NORMAL	0	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11119	F	300 MG/KG/DAY	DISPOSITION	90	7:36	P	PRIMARY NECROPSY (WEEK 12)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	BODY/INTEGUMENT	63	7:30	P	HAIR LOSS VENTRAL NECK
				77	7:42	P	HAIR LOSS VENTRAL NECK
				84	7:41	P	HAIR LOSS VENTRAL NECK
11062	F	600 MG/KG/DAY	NORMAL	0	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11062	F	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11062	F	600 MG/KG/DAY	BODY/INTEGUMENT	14	7:30	P	HAIR LOSS FACIAL AREA
				56	7:44	P	HAIR LOSS FACIAL AREA
				77	7:51	P	HAIR LOSS FACIAL AREA
				84	7:49	P	HAIR LOSS FACIAL AREA
				84	7:49	P	HAIR LOSS DORSAL NECK
				84	7:50	P	HAIR LOSS VENTRAL NECK
				89	6:38	P	HAIR LOSS FACIAL AREA
11062	F	600 MG/KG/DAY	EYES/EARS/NOSE	49	7:44	P	DRIED RED MATERIAL AROUND RIGHT EYE
				63	7:39	P	DRIED RED MATERIAL AROUND RIGHT EYE
				63	7:39	P	DRIED RED MATERIAL AROUND LEFT EYE
11062	F	600 MG/KG/DAY	BODY/INTEG II	70	7:41	P	SCABBING FACIAL AREA
				84	7:50	P	SCABBING VENTRAL NECK
11065	F	600 MG/KG/DAY	NORMAL	0	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11065	F	600 MG/KG/DAY	NORMAL	49	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11065	F	600 MG/KG/DAY	DISPOSITION	89	8:00	P	PRIMARY NECROPSY (WEEK 12)
11096	F	600 MG/KG/DAY	NORMAL	0	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11096	F	600 MG/KG/DAY	DISPOSITION	89	8:01	P	PRIMARY NECROPSY (WEEK 12)
11096	F	600 MG/KG/DAY	BODY/INTEGUMENT	14	7:31	P	HAIR LOSS FACIAL AREA
				84	7:51	P	HAIR LOSS VENTRAL NECK
11096	F	600 MG/KG/DAY	EYES/EARS/NOSE	7	8:34	P	DRIED RED MATERIAL AROUND RIGHT EYE
				7	8:34	P	DRIED RED MATERIAL AROUND LEFT EYE
11096	F	600 MG/KG/DAY	BODY/INTEG II	7	8:34	P	SCABBING FACIAL AREA
				14	7:31	P	SCABBING FACIAL AREA
11081	F	600 MG/KG/DAY	NORMAL	0	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	21	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11081	F	600 MG/KG/DAY	DISPOSITION	89	8:01	P	PRIMARY NECROPSY (WEEK 12)
11081	F	600 MG/KG/DAY	BODY/INTEGUMENT	84	7:52	P	HAIR LOSS VENTRAL NECK
11095	F	600 MG/KG/DAY	NORMAL	0	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11095	F	600 MG/KG/DAY	DISPOSITION	89	8:01	P	PRIMARY NECROPSY (WEEK 12)
11097	F	600 MG/KG/DAY	NORMAL	0	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 59

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	14	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11097	F	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11097	F	600 MG/KG/DAY	BODY/INTEGUMENT	63	7:42	P	HAIR LOSS DORSAL NECK
				63	7:42	P	HAIR LOSS VENTRAL NECK
				77	7:55	P	HAIR LOSS DORSAL NECK
				77	7:55	P	HAIR LOSS VENTRAL NECK
				84	7:53	P	HAIR LOSS DORSAL NECK
				84	7:53	P	HAIR LOSS VENTRAL NECK
11104	F	600 MG/KG/DAY	NORMAL	0	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11104	F	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11104	F	600 MG/KG/DAY	BODY/INTEGUMENT	7	8:37	P	HAIR LOSS DORSAL NECK
				14	7:33	P	HAIR LOSS FACIAL AREA
				14	7:34	P	HAIR LOSS DORSAL NECK
				14	7:34	P	HAIR LOSS VENTRAL NECK
				21	7:27	P	HAIR LOSS VENTRAL NECK
				21	7:27	P	HAIR LOSS DORSAL NECK
				35	8:48	P	HAIR LOSS VENTRAL NECK
				49	7:48	P	HAIR LOSS FORELIMB(S)
				49	7:48	P	HAIR LOSS DORSAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 60

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	BODY/INTEGUMENT	49	7:48	P	HAIR LOSS VENTRAL NECK
				56	7:48	P	HAIR LOSS VENTRAL NECK
				56	7:48	P	HAIR LOSS DORSAL NECK
				56	7:49	P	HAIR LOSS FORELIMB(S)
				63	7:43	P	HAIR LOSS DORSAL NECK
				63	7:43	P	HAIR LOSS VENTRAL NECK
				70	7:45	P	HAIR LOSS DORSAL NECK
				70	7:45	P	HAIR LOSS VENTRAL NECK
				77	7:56	P	HAIR LOSS DORSAL NECK
				77	7:56	P	HAIR LOSS VENTRAL NECK
				84	7:54	P	HAIR LOSS DORSAL NECK
				84	7:54	P	HAIR LOSS VENTRAL NECK
11104	F	600 MG/KG/DAY	BODY/INTEG II	7	8:37	P	SCABBING DORSAL NECK
				21	7:27	P	SCABBING VENTRAL NECK
				21	7:27	P	SCABBING DORSAL NECK
				28	7:48	P	SCABBING DORSAL NECK
11112	F	600 MG/KG/DAY	NORMAL	0	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11112	F	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11112	F	600 MG/KG/DAY	BODY/INTEGUMENT	7	8:40	P	MOIST ALOPECIA RIGHT EAR
				14	7:34	P	HAIR LOSS DORSAL NECK
				49	7:48	P	HAIR LOSS DORSAL NECK
				49	7:48	P	HAIR LOSS VENTRAL NECK
				63	7:43	P	HAIR LOSS VENTRAL NECK

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	BODY/INTEGUMENT	70	7:46	P	HAIR LOSS VENTRAL NECK
				77	7:56	P	HAIR LOSS DORSAL NECK
				77	7:56	P	HAIR LOSS VENTRAL NECK
				84	7:54	P	HAIR LOSS VENTRAL NECK
11112	F	600 MG/KG/DAY	SPECIAL II	7	8:40	P	WET RED MATERIAL RIGHT EAR
11117	F	600 MG/KG/DAY	NORMAL	0	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11117	F	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)
11117	F	600 MG/KG/DAY	BODY/INTEGUMENT	14	7:35	P	HAIR LOSS DORSAL NECK
				63	7:44	P	HAIR LOSS VENTRAL NECK
				84	7:55	P	HAIR LOSS DORSAL NECK
				84	7:55	P	HAIR LOSS VENTRAL NECK
11118	F	600 MG/KG/DAY	NORMAL	0	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A2 (DETAILED PHYSICAL EXAMINATIONS/DISPOSITIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 62

STUDY DAYS: 0 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	56	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11118	F	600 MG/KG/DAY	DISPOSITION	90	7:37	P	PRIMARY NECROPSY (WEEK 12)

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PCRDv4.17
11/04/2011

FINAL REPORT



Contents: Volume 2 of 4
Appendix K (continued)

Study Title: A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing
Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Laboratory Project ID: WIL-402025

Author: Angela S. Burke, PhD, DABT

Test Guideline: OPPTS Guideline 870.3250
40 CFR 798.2250
OECD Guideline 411

Study Completion Date: 9 August 2012

Performing Laboratory: WIL Research Laboratories, LLC
1407 George Road
Ashland, OH 44805-8946

Sponsor: American Petroleum Institute
1220 L Street, NW
Washington, DC 20005

Total Number of Pages: 1297

APPENDIX K

Individual Animal Data (continued)

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 1

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	0	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 2

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	18	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 3

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	39	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 4

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	59	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11012	M	UNTREATED	NORMAL	0	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 6

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	NORMAL	9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	NORMAL	30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 8

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	NORMAL	50	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	NORMAL	71	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11013	M	UNTREATED	NORMAL	0	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	21	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11013	M	UNTREATED	SPECIAL	57	8:32	P	SWOLLEN FACIAL AREA
				57	10:07	P	SWOLLEN FACIAL AREA
11015	M	UNTREATED	NORMAL	0	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11021	M	UNTREATED	NORMAL	0	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	42	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	81	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11022	M	UNTREATED	NORMAL	0	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11022	M	UNTREATED	NORMAL	10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11022	M	UNTREATED	NORMAL	31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11022	M	UNTREATED	NORMAL	51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11022	M	UNTREATED	NORMAL	72	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11026	M	UNTREATED	NORMAL	0	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11040	M	UNTREATED	NORMAL	0	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11040	M	UNTREATED	NORMAL	11	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11040	M	UNTREATED	NORMAL	31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11040	M	UNTREATED	NORMAL	52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11040	M	UNTREATED	NORMAL	72	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11044	M	UNTREATED	NORMAL	0	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	2	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11044	M	UNTREATED	NORMAL	85	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11053	M	UNTREATED	NORMAL	0	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	0	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	2	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 47

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	85	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11001	M	0 MG/KG/DAY	EYES/EARS/NOSE	21	7:47	P	DRIED RED MATERIAL AROUND NOSE
11009	M	0 MG/KG/DAY	NORMAL	0	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11009	M	0 MG/KG/DAY	NORMAL	14	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11009	M	0 MG/KG/DAY	NORMAL	32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11009	M	0 MG/KG/DAY	NORMAL	53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11009	M	0 MG/KG/DAY	NORMAL	73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	0	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	85	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	0	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	35	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	0	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	3	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	46	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11029	M	0 MG/KG/DAY	SPECIAL	9	9:00	P	SWOLLEN FACIAL AREA
				9	11:10	P	SWOLLEN FACIAL AREA
				22	8:30	P	SWOLLEN FACIAL AREA
				22	10:15	P	SWOLLEN FACIAL AREA
11033	M	0 MG/KG/DAY	NORMAL	0	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11033	M	0 MG/KG/DAY	NORMAL	15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11033	M	0 MG/KG/DAY	NORMAL	35	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11033	M	0 MG/KG/DAY	NORMAL	56	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11033	M	0 MG/KG/DAY	NORMAL	74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	0	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	0	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	77	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11046	M	0 MG/KG/DAY	EXCRETA	71	7:33	P	RED PENILE DISCHARGE
11052	M	0 MG/KG/DAY	NORMAL	0	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	4	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	0	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	77	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	0	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	7	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	0	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	16	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	78	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	0	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	46	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11020	M	100 MG/KG/DAY	EYES/EARS/NOSE	77	8:20	P	DRIED RED MATERIAL AROUND NOSE
				77	10:56	P	DRIED RED MATERIAL AROUND NOSE
11025	M	100 MG/KG/DAY	NORMAL	0	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	58	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	0	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	8	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11028	M	100 MG/KG/DAY	NORMAL	88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	0	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	18	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11045	M	100 MG/KG/DAY	SPECIAL	9	9:04	P	SWOLLEN FACIAL AREA
				9	11:14	P	SWOLLEN FACIAL AREA
11047	M	100 MG/KG/DAY	NORMAL	0	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	8	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 121

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	70	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 122

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	0	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	18	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 126

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	0	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 127

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	0	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	18	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	80	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	0	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	9	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	0	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	0	16:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	21	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	42	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11005	M	300 MG/KG/DAY	SPECIAL	22	8:37	P	SWOLLEN FACIAL AREA
				22	10:21	P	SWOLLEN FACIAL AREA
11007	M	300 MG/KG/DAY	NORMAL	0	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11007	M	300 MG/KG/DAY	NORMAL	10	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11007	M	300 MG/KG/DAY	NORMAL	30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11007	M	300 MG/KG/DAY	NORMAL	51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11007	M	300 MG/KG/DAY	NORMAL	72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11007	M	300 MG/KG/DAY	EXCRETA	35	11:37	P	SOFT FECES
11008	M	300 MG/KG/DAY	NORMAL	0	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	42	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	60	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11017	M	300 MG/KG/DAY	NORMAL	0	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11017	M	300 MG/KG/DAY	NORMAL	10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11017	M	300 MG/KG/DAY	NORMAL	31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11017	M	300 MG/KG/DAY	NORMAL	51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11017	M	300 MG/KG/DAY	NORMAL	72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	0	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	0	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	0	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	2	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 168

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	22	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 169

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	85	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	0	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	32	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	0	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	2	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	23	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	43	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	64	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	85	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	0	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	14	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	0	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	3	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	0	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	35	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	0	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	3	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	0	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	56	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	0	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11042	M	600 MG/KG/DAY	NORMAL	88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11042	M	600 MG/KG/DAY	SPECIAL	71	7:41	P	SWOLLEN FACIAL AREA
				71	9:22	P	SWOLLEN FACIAL AREA
11049	M	600 MG/KG/DAY	NORMAL	0	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 209

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	56	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	77	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	0	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 216

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	0	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 220

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	0	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	7	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	25	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	46	6:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11069	F	UNTREATED	NORMAL	0	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11069	F	UNTREATED	NORMAL	16	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11069	F	UNTREATED	NORMAL	37	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11069	F	UNTREATED	NORMAL	57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11069	F	UNTREATED	NORMAL	78	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11082	F	UNTREATED	NORMAL	0	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	67	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11088	F	UNTREATED	NORMAL	0	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11088	F	UNTREATED	NORMAL	17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11088	F	UNTREATED	NORMAL	37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11088	F	UNTREATED	NORMAL	58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11088	F	UNTREATED	NORMAL	78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11089	F	UNTREATED	NORMAL	0	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	NORMAL	8	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	NORMAL	28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	NORMAL	49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	NORMAL	67	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11089	F	UNTREATED	NORMAL	88	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11090	F	UNTREATED	NORMAL	0	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11090	F	UNTREATED	NORMAL	17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11090	F	UNTREATED	NORMAL	38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11090	F	UNTREATED	NORMAL	58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11090	F	UNTREATED	NORMAL	79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11091	F	UNTREATED	NORMAL	0	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	8	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	70	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11092	F	UNTREATED	NORMAL	0	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11092	F	UNTREATED	NORMAL	18	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11092	F	UNTREATED	NORMAL	38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11092	F	UNTREATED	NORMAL	59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11092	F	UNTREATED	NORMAL	79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11093	F	UNTREATED	NORMAL	0	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	6:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	9	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	30	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11093	F	UNTREATED	SPECIAL	22	8:29	P	SWOLLEN FACIAL AREA

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	0	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 262

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	18	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 263

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	39	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11115	F	UNTREATED	NORMAL	0	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	9	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

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PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 267

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	30	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	50	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	71	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	0	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	0	16:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	21	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	0	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	10	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	0	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 281

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	42	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 282

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	0	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	51	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	0	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	0	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	72	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	0	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	2	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	43	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 300

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	85	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	0	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 302

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 303

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	0	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	2	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	23	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	43	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 309

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 310

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	0	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	14	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 312

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	32	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	53	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 314

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	73	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	0	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

FINAL REPORT



Contents: Volume 3 of 4
Appendix K (continued)

Study Title: A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing
Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Laboratory Project ID: WIL-402025

Author: Angela S. Burke, PhD, DABT

Test Guideline: OPPTS Guideline 870.3250
40 CFR 798.2250
OECD Guideline 411

Study Completion Date: 9 August 2012

Performing Laboratory: WIL Research Laboratories, LLC
1407 George Road
Ashland, OH 44805-8946

Sponsor: American Petroleum Institute
1220 L Street, NW
Washington, DC 20005

Total Number of Pages: 1297

APPENDIX K

Individual Animal Data (continued)

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	3	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 318

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	0	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	35	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	0	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	3	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	0	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	56	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	0	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	0	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	77	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	0	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	0	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	0	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	7	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	25	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	0	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	16	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	7:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	37	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	57	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	78	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	0	13:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	0	13:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	17	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	39	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11075	F	300 MG/KG/DAY	BEHAVIOR/CNS	18	7:38	P	IMPAIRED USE OF RIGHT FORELIMB
				18	9:50	P	IMPAIRED USE OF RIGHT FORELIMB
11075	F	300 MG/KG/DAY	ORAL/DENTAL	77	8:29	P	WET CLEAR MATERIAL AROUND MOUTH
				77	8:29	P	WET CLEAR MATERIAL VENTRAL NECK
11075	F	300 MG/KG/DAY	SPECIAL	18	7:37	P	REDDENED RIGHT FORELIMB
				18	7:37	P	SWOLLEN RIGHT FORELIMB
				18	9:50	P	SWOLLEN RIGHT FORELIMB
				18	9:51	P	REDDENED RIGHT FORELIMB
				22	8:41	P	REDDENED RIGHT FORELIMB
				22	10:24	P	REDDENED RIGHT FORELIMB
11077	F	300 MG/KG/DAY	NORMAL	0	13:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	24	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	0	13:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	56	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	0	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	45	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	0	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	77	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	0	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	25	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	0	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	78	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11105	F	300 MG/KG/DAY	SPECIAL	9	9:10	P	SWOLLEN FACIAL AREA
11106	F	300 MG/KG/DAY	NORMAL	0	13:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	46	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11106	F	300 MG/KG/DAY	SPECIAL	4	9:29	P	SWOLLEN FACIAL AREA
11119	F	300 MG/KG/DAY	NORMAL	0	13:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	16:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	NORMAL	16	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	NORMAL	37	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	NORMAL	57	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	NORMAL	78	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	0	13:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	13:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	7	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	25	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	46	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	NORMAL	88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11062	F	600 MG/KG/DAY	EYES/EARS/NOSE	49	8:23	P	DRIED RED MATERIAL AROUND RIGHT EYE
				63	8:10	P	DRIED RED MATERIAL AROUND RIGHT EYE
				63	8:10	P	DRIED RED MATERIAL AROUND LEFT EYE
11065	F	600 MG/KG/DAY	NORMAL	0	13:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11065	F	600 MG/KG/DAY	NORMAL	16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11065	F	600 MG/KG/DAY	NORMAL	36	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 412

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11065	F	600 MG/KG/DAY	NORMAL	57	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 413

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11065	F	600 MG/KG/DAY	NORMAL	77	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	0	13:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	7	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	25	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	46	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 417

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 418

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	0	13:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
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TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	57	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	78	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	0	13:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	7	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 425

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	46	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	0	13:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	58	8:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 431

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	0	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 432

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	8	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	28	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 434

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 436

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	0	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	17	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	0	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 444

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	70	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	89	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	0	13:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				0	17:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				1	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				2	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				3	9:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	7:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				4	9:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				7	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				8	11:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				9	11:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	8:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				10	10:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	7:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				11	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	9:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				14	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				15	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				16	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				17	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	18	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				18	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				21	11:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				22	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				23	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	7:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				24	9:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				25	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				28	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				29	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	7:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				30	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				31	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				32	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				35	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				36	9:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				37	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				38	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	38	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				39	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				42	13:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				43	9:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				44	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				45	9:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	6:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				46	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				49	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				50	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				51	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	7:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				52	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				53	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	9:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				56	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				57	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				58	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	59	8:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				59	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				60	9:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				63	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				64	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	8:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				65	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				66	9:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				67	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	9:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				70	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				71	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	7:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				72	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				73	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	7:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				74	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				77	11:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				78	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				79	7:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A3 (DOSING DAY OBSERVATIONS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 449

STUDY DAYS: 0 THROUGH 89

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	79	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				80	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	7:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				81	9:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				85	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				86	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				87	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	8:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				88	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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R:08/18/2011

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 1

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11011	M	UNTREATED	NORMAL	5	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:26	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:26	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:25	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:58	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:18	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11012	M	UNTREATED	NORMAL	6	10:26	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11012	M	UNTREATED	NORMAL	26	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11012	M	UNTREATED	EYES/EARS/NOSE	5	10:50	P	DRIED RED MATERIAL AROUND NOSE
				19	14:27	P	DRIED RED MATERIAL AROUND NOSE
11013	M	UNTREATED	NORMAL	6	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 3

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11013	M	UNTREATED	NORMAL	34	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11013	M	UNTREATED	EYES/EARS/NOSE	5	10:50	P	DRIED RED MATERIAL AROUND NOSE
				5	10:50	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	10:50	P	DRIED RED MATERIAL AROUND RIGHT EYE
11015	M	UNTREATED	NORMAL	6	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 4

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11015	M	UNTREATED	NORMAL	41	8:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11015	M	UNTREATED	EYES/EARS/NOSE	5	10:50	P	DRIED RED MATERIAL AROUND NOSE
11021	M	UNTREATED	NORMAL	5	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 5

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11021	M	UNTREATED	NORMAL	54	9:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11022	M	UNTREATED	NORMAL	5	10:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:26	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 6

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11022	M	UNTREATED	NORMAL	68	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11026	M	UNTREATED	NORMAL	5	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11026	M	UNTREATED	NORMAL	76	13:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11040	M	UNTREATED	NORMAL	6	10:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 8

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11040	M	UNTREATED	NORMAL	90	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11040	M	UNTREATED	EYES/EARS/NOSE	5	10:51	P	DRIED RED MATERIAL AROUND NOSE
11044	M	UNTREATED	NORMAL	6	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11044	M	UNTREATED	EYES/EARS/NOSE	5	10:51	P	DRIED RED MATERIAL AROUND NOSE
11053	M	UNTREATED	NORMAL	6	10:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11053	M	UNTREATED	NORMAL	12	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11053	M	UNTREATED	EYES/EARS/NOSE	5	10:52	P	DRIED RED MATERIAL AROUND NOSE
11001	M	0 MG/KG/DAY	NORMAL	6	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 10

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11001	M	0 MG/KG/DAY	NORMAL	20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11001	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:53	P	DRIED RED MATERIAL AROUND NOSE
				26	10:41	P	DRIED RED MATERIAL AROUND NOSE
11001	M	0 MG/KG/DAY	BODY/INTEG III	33	10:04	P	DRIED RED MATERIAL DORSAL NECK
11009	M	0 MG/KG/DAY	NORMAL	5	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11009	M	0 MG/KG/DAY	NORMAL	33	10:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	6	10:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11010	M	0 MG/KG/DAY	NORMAL	48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11010	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:54	P	DRIED RED MATERIAL AROUND NOSE
11014	M	0 MG/KG/DAY	NORMAL	6	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11014	M	0 MG/KG/DAY	NORMAL	62	8:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11014	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:54	P	DRIED RED MATERIAL AROUND NOSE
11029	M	0 MG/KG/DAY	NORMAL	6	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11029	M	0 MG/KG/DAY	NORMAL	76	13:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11029	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:54	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	10:54	P	DRIED RED MATERIAL AROUND RIGHT EYE
11033	M	0 MG/KG/DAY	NORMAL	5	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11033	M	0 MG/KG/DAY	NORMAL	83	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11037	M	0 MG/KG/DAY	NORMAL	6	10:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11037	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:54	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11046	M	0 MG/KG/DAY	NORMAL	5	10:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:25	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	5	10:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11052	M	0 MG/KG/DAY	NORMAL	13	11:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:25	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	13	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11057	M	0 MG/KG/DAY	NORMAL	34	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11057	M	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:55	P	DRIED RED MATERIAL AROUND NOSE
				6	10:30	P	DRIED RED MATERIAL AROUND LEFT EYE
				12	10:58	P	DRIED RED MATERIAL AROUND LEFT EYE
11057	M	0 MG/KG/DAY	ORAL/DENTAL	54	9:50	P	WET RED MATERIAL AROUND MOUTH
11006	M	100 MG/KG/DAY	NORMAL	6	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11006	M	100 MG/KG/DAY	NORMAL	40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11006	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	10:59	P	DRIED RED MATERIAL AROUND NOSE
11019	M	100 MG/KG/DAY	NORMAL	5	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11019	M	100 MG/KG/DAY	NORMAL	48	14:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	5	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11020	M	100 MG/KG/DAY	NORMAL	68	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11020	M	100 MG/KG/DAY	EYES/EARS/NOSE	12	11:01	P	DRIED RED MATERIAL AROUND NOSE
11025	M	100 MG/KG/DAY	NORMAL	6	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11025	M	100 MG/KG/DAY	NORMAL	82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11025	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	10:59	P	DRIED RED MATERIAL AROUND NOSE
11028	M	100 MG/KG/DAY	NORMAL	6	10:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11028	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:00	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11045	M	100 MG/KG/DAY	NORMAL	5	11:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	6	10:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11047	M	100 MG/KG/DAY	NORMAL	19	14:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11047	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:00	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:00	P	DRIED RED MATERIAL AROUND RIGHT EYE
11048	M	100 MG/KG/DAY	NORMAL	12	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11048	M	100 MG/KG/DAY	NORMAL	27	12:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11048	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:00	P	DRIED RED MATERIAL AROUND NOSE
				6	10:33	P	DRIED RED MATERIAL AROUND NOSE
11050	M	100 MG/KG/DAY	NORMAL	5	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11050	M	100 MG/KG/DAY	NORMAL	33	10:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:58	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	90	6:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11054	M	100 MG/KG/DAY	NORMAL	47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11054	M	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:00	P	DRIED RED MATERIAL AROUND NOSE
11003	M	300 MG/KG/DAY	NORMAL	6	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11003	M	300 MG/KG/DAY	NORMAL	55	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11003	M	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:02	P	DRIED RED MATERIAL AROUND NOSE
				5	11:02	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:02	P	DRIED RED MATERIAL AROUND RIGHT EYE
11005	M	300 MG/KG/DAY	NORMAL	13	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 29

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11005	M	300 MG/KG/DAY	NORMAL	69	8:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11005	M	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:02	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:02	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:02	P	DRIED RED MATERIAL AROUND NOSE
				6	10:36	P	DRIED RED MATERIAL AROUND LEFT EYE
				6	10:36	P	DRIED RED MATERIAL AROUND RIGHT EYE
				12	11:05	P	DRIED RED MATERIAL AROUND RIGHT EYE
11007	M	300 MG/KG/DAY	NORMAL	5	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11007	M	300 MG/KG/DAY	NORMAL	62	8:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:26	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	12	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11008	M	300 MG/KG/DAY	NORMAL	83	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11008	M	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:02	P	DRIED RED MATERIAL AROUND NOSE
				5	11:02	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:02	P	DRIED RED MATERIAL AROUND RIGHT EYE
				6	10:36	P	DRIED RED MATERIAL AROUND LEFT EYE
11017	M	300 MG/KG/DAY	NORMAL	12	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 32

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11017	M	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:03	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:03	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:03	P	DRIED RED MATERIAL AROUND NOSE
				6	10:36	P	DRIED RED MATERIAL AROUND NOSE
11018	M	300 MG/KG/DAY	NORMAL	5	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11018	M	300 MG/KG/DAY	NORMAL	90	6:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11027	M	300 MG/KG/DAY	NORMAL	5	11:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:23	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:21	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	5	11:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11031	M	300 MG/KG/DAY	NORMAL	12	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:23	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:18	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	6	10:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 35

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11038	M	300 MG/KG/DAY	NORMAL	26	10:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11038	M	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:03	P	DRIED RED MATERIAL AROUND NOSE
				69	8:27	P	DRIED RED MATERIAL AROUND NOSE
11043	M	300 MG/KG/DAY	NORMAL	5	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11043	M	300 MG/KG/DAY	NORMAL	33	10:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11024	M	600 MG/KG/DAY	NORMAL	48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11024	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:05	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:05	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:06	P	DRIED RED MATERIAL AROUND NOSE
				6	10:39	P	DRIED RED MATERIAL AROUND NOSE
11030	M	600 MG/KG/DAY	NORMAL	6	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11030	M	600 MG/KG/DAY	NORMAL	55	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11030	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:06	P	DRIED RED MATERIAL AROUND NOSE
				12	11:07	P	DRIED RED MATERIAL AROUND NOSE
11034	M	600 MG/KG/DAY	NORMAL	12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11034	M	600 MG/KG/DAY	NORMAL	69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11034	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:06	P	DRIED RED MATERIAL AROUND NOSE
				5	11:06	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:06	P	DRIED RED MATERIAL AROUND RIGHT EYE
				6	10:40	P	DRIED RED MATERIAL AROUND RIGHT EYE
11035	M	600 MG/KG/DAY	NORMAL	5	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11035	M	600 MG/KG/DAY	NORMAL	69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	6	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11004	M	600 MG/KG/DAY	NORMAL	89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11004	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:25	P	DRIED RED MATERIAL AROUND NOSE
11042	M	600 MG/KG/DAY	NORMAL	5	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	6	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11049	M	600 MG/KG/DAY	NORMAL	12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11049	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:07	P	DRIED RED MATERIAL AROUND NOSE
11058	M	600 MG/KG/DAY	NORMAL	12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11058	M	600 MG/KG/DAY	NORMAL	26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11058	M	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:07	P	DRIED RED MATERIAL AROUND NOSE
				6	10:40	P	DRIED RED MATERIAL AROUND NOSE
11059	M	600 MG/KG/DAY	NORMAL	5	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11059	M	600 MG/KG/DAY	NORMAL	34	13:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11059	M	600 MG/KG/DAY	EYES/EARS/NOSE	6	10:41	P	DRIED RED MATERIAL AROUND LEFT EYE
				12	11:08	P	DRIED RED MATERIAL AROUND LEFT EYE
				62	8:58	P	DRIED RED MATERIAL AROUND LEFT EYE
11060	M	600 MG/KG/DAY	NORMAL	5	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11060	M	600 MG/KG/DAY	NORMAL	40	11:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:58	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11069	F	UNTREATED	NORMAL	5	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:01	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11069	F	UNTREATED	NORMAL	48	14:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11082	F	UNTREATED	NORMAL	5	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11082	F	UNTREATED	NORMAL	62	8:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11088	F	UNTREATED	NORMAL	6	10:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:54	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11088	F	UNTREATED	NORMAL	82	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11088	F	UNTREATED	EYES/EARS/NOSE	5	10:52	P	DRIED RED MATERIAL AROUND NOSE
11089	F	UNTREATED	NORMAL	5	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11089	F	UNTREATED	EYES/EARS/NOSE	12	10:55	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11090	F	UNTREATED	NORMAL	5	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11091	F	UNTREATED	NORMAL	5	10:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11091	F	UNTREATED	NORMAL	19	14:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:04	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11092	F	UNTREATED	NORMAL	5	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
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TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11092	F	UNTREATED	NORMAL	33	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11092	F	UNTREATED	EYES/EARS/NOSE	12	10:55	P	DRIED RED MATERIAL AROUND NOSE
11093	F	UNTREATED	NORMAL	5	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11093	F	UNTREATED	NORMAL	40	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11093	F	UNTREATED	EYES/EARS/NOSE	62	8:47	P	DRIED RED MATERIAL AROUND NOSE
11098	F	UNTREATED	NORMAL	5	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11098	F	UNTREATED	NORMAL	48	14:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11115	F	UNTREATED	NORMAL	6	10:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:29	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:49	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:44	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11115	F	UNTREATED	NORMAL	62	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11115	F	UNTREATED	EYES/EARS/NOSE	5	10:53	P	DRIED RED MATERIAL AROUND RIGHT EYE
11114	F	0 MG/KG/DAY	NORMAL	6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11114	F	0 MG/KG/DAY	NORMAL	75	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11114	F	0 MG/KG/DAY	EYES/EARS/NOSE	5	11:24	P	DRIED RED MATERIAL AROUND NOSE
11070	F	0 MG/KG/DAY	NORMAL	5	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 56

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11070	F	0 MG/KG/DAY	NORMAL	83	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11074	F	0 MG/KG/DAY	NORMAL	5	10:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	5	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 57

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11079	F	0 MG/KG/DAY	NORMAL	12	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11084	F	0 MG/KG/DAY	NORMAL	27	11:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11084	F	0 MG/KG/DAY	EYES/EARS/NOSE	5	10:58	P	DRIED RED MATERIAL AROUND NOSE
11087	F	0 MG/KG/DAY	NORMAL	5	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11087	F	0 MG/KG/DAY	NORMAL	41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11087	F	0 MG/KG/DAY	EYES/EARS/NOSE	40	11:03	P	DRIED RED MATERIAL AROUND NOSE
11099	F	0 MG/KG/DAY	NORMAL	5	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11099	F	0 MG/KG/DAY	NORMAL	48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	5	10:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	11:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11110	F	0 MG/KG/DAY	NORMAL	61	7:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:28	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	5	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11111	F	0 MG/KG/DAY	NORMAL	69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	5	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11116	F	0 MG/KG/DAY	NORMAL	82	11:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11071	F	100 MG/KG/DAY	NORMAL	5	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11072	F	100 MG/KG/DAY	NORMAL	6	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:46	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11072	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:01	P	DRIED RED MATERIAL AROUND NOSE
11073	F	100 MG/KG/DAY	NORMAL	5	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:34	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11073	F	100 MG/KG/DAY	NORMAL	19	14:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	10:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:46	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:23	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:32	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	6	10:34	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:03	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:17	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11076	F	100 MG/KG/DAY	NORMAL	34	12:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11076	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:01	P	DRIED RED MATERIAL AROUND NOSE
				5	11:01	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:01	P	DRIED RED MATERIAL AROUND RIGHT EYE
11078	F	100 MG/KG/DAY	NORMAL	12	11:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11078	F	100 MG/KG/DAY	NORMAL	54	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11078	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:01	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:01	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:01	P	DRIED RED MATERIAL AROUND NOSE
				6	10:35	P	DRIED RED MATERIAL AROUND NOSE
				40	11:05	P	DRIED RED MATERIAL AROUND NOSE
				41	8:42	P	DRIED RED MATERIAL AROUND NOSE
11083	F	100 MG/KG/DAY	NORMAL	6	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11083	F	100 MG/KG/DAY	NORMAL	48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11083	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:01	P	DRIED RED MATERIAL AROUND NOSE
11086	F	100 MG/KG/DAY	NORMAL	5	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11086	F	100 MG/KG/DAY	NORMAL	61	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:17	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:32	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11086	F	100 MG/KG/DAY	EYES/EARS/NOSE	12	11:04	P	DRIED RED MATERIAL AROUND LEFT EYE
11101	F	100 MG/KG/DAY	NORMAL	5	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11101	F	100 MG/KG/DAY	NORMAL	68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	5	11:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:51	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11102	F	100 MG/KG/DAY	NORMAL	76	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11113	F	100 MG/KG/DAY	NORMAL	12	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	9:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:33	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11113	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:02	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11113	F	100 MG/KG/DAY	EYES/EARS/NOSE	5	11:02	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:02	P	DRIED RED MATERIAL AROUND RIGHT EYE
				6	10:35	P	DRIED RED MATERIAL AROUND LEFT EYE
				6	10:35	P	DRIED RED MATERIAL AROUND RIGHT EYE
				20	10:51	P	DRIED RED MATERIAL AROUND RIGHT EYE
11066	F	300 MG/KG/DAY	NORMAL	5	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:52	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11066	F	300 MG/KG/DAY	NORMAL	89	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11075	F	300 MG/KG/DAY	NORMAL	5	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11075	F	300 MG/KG/DAY	SPECIAL	19	14:38	P	REDDENED RIGHT FORELIMB
				20	10:53	P	REDDENED RIGHT FORELIMB
11077	F	300 MG/KG/DAY	NORMAL	6	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11077	F	300 MG/KG/DAY	NORMAL	19	14:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	7:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11077	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:04	P	DRIED RED MATERIAL AROUND NOSE
				5	11:04	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:04	P	DRIED RED MATERIAL AROUND RIGHT EYE
11080	F	300 MG/KG/DAY	NORMAL	6	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11080	F	300 MG/KG/DAY	NORMAL	26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:15	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:44	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:00	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11080	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:04	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:04	P	DRIED RED MATERIAL AROUND RIGHT EYE
11085	F	300 MG/KG/DAY	NORMAL	5	11:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:26	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:53	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11085	F	300 MG/KG/DAY	NORMAL	33	10:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:02	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	12	11:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:27	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:53	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:20	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11094	F	300 MG/KG/DAY	NORMAL	54	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11094	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:04	P	DRIED RED MATERIAL AROUND NOSE
				6	10:38	P	DRIED RED MATERIAL AROUND NOSE
11103	F	300 MG/KG/DAY	NORMAL	6	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:27	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11103	F	300 MG/KG/DAY	NORMAL	61	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:40	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11103	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:05	P	DRIED RED MATERIAL AROUND NOSE
11105	F	300 MG/KG/DAY	NORMAL	6	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:01	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11105	F	300 MG/KG/DAY	NORMAL	69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11105	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:05	P	DRIED RED MATERIAL AROUND NOSE
11106	F	300 MG/KG/DAY	NORMAL	6	10:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11106	F	300 MG/KG/DAY	NORMAL	82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11106	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:05	P	DRIED RED MATERIAL AROUND NOSE
				5	11:05	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:05	P	DRIED RED MATERIAL AROUND RIGHT EYE
11119	F	300 MG/KG/DAY	NORMAL	12	11:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:54	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:48	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:16	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	12:58	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:45	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:02	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:20	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11119	F	300 MG/KG/DAY	NORMAL	84	8:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11119	F	300 MG/KG/DAY	EYES/EARS/NOSE	5	11:05	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:05	P	DRIED RED MATERIAL AROUND RIGHT EYE
				6	10:39	P	DRIED RED MATERIAL AROUND LEFT EYE
11062	F	600 MG/KG/DAY	NORMAL	6	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11062	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:08	P	DRIED RED MATERIAL AROUND NOSE
				12	11:09	P	DRIED RED MATERIAL AROUND LEFT EYE
				12	11:09	P	DRIED RED MATERIAL AROUND RIGHT EYE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11062	F	600 MG/KG/DAY	EYES/EARS/NOSE	19	14:41	P	DRIED RED MATERIAL AROUND LEFT EYE
				19	14:41	P	DRIED RED MATERIAL AROUND RIGHT EYE
				62	8:59	P	DRIED RED MATERIAL AROUND LEFT EYE
				62	8:59	P	DRIED RED MATERIAL AROUND RIGHT EYE
11065	F	600 MG/KG/DAY	NORMAL	6	10:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:35	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:55	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:49	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:03	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:12	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11065	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:08	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11096	F	600 MG/KG/DAY	NORMAL	13	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:28	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:23	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11096	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:25	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:25	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:25	P	DRIED RED MATERIAL AROUND NOSE
				6	10:41	P	DRIED RED MATERIAL AROUND LEFT EYE
				6	10:41	P	DRIED RED MATERIAL AROUND RIGHT EYE
				12	11:09	P	DRIED RED MATERIAL AROUND LEFT EYE
11081	F	600 MG/KG/DAY	NORMAL	12	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 84

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11081	F	600 MG/KG/DAY	NORMAL	13	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11081	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:09	P	DRIED RED MATERIAL AROUND LEFT EYE
				5	11:09	P	DRIED RED MATERIAL AROUND RIGHT EYE
				5	11:09	P	DRIED RED MATERIAL AROUND NOSE
				6	10:42	P	DRIED RED MATERIAL AROUND NOSE
11095	F	600 MG/KG/DAY	NORMAL	6	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:36	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11095	F	600 MG/KG/DAY	NORMAL	19	14:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:29	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:18	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:04	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:07	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:21	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				89	6:39	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11095	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:09	P	DRIED RED MATERIAL AROUND NOSE
11097	F	600 MG/KG/DAY	NORMAL	5	11:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:09	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:37	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11097	F	600 MG/KG/DAY	NORMAL	27	12:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:41	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	5	11:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:37	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:30	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:05	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11104	F	600 MG/KG/DAY	NORMAL	41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:06	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:14	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:08	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:22	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:30	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11104	F	600 MG/KG/DAY	EYES/EARS/NOSE	6	10:42	P	DRIED RED MATERIAL AROUND LEFT EYE
11112	F	600 MG/KG/DAY	NORMAL	5	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:10	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:38	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:19	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:05	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P	NO SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

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STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11112	F	600 MG/KG/DAY	NORMAL	48	14:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:14	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	8:59	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	5	11:10	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				6	10:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:06	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:47	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 89

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11117	F	600 MG/KG/DAY	NORMAL	61	8:08	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	9:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				75	9:24	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	6	10:43	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				12	11:12	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				13	12:39	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				19	14:42	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				20	10:56	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				26	10:50	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				27	12:31	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				33	10:19	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				34	13:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				40	11:11	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				41	8:48	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				47	11:57	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				48	14:58	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				54	10:07	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				55	11:15	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				61	8:09	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				62	9:00	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				68	12:22	P NO	SIGNIFICANT CLINICAL OBSERVATIONS
				69	8:38	P NO	SIGNIFICANT CLINICAL OBSERVATIONS

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

PROJECT NO.:WIL-402025U
SPONSOR:AMERICAN PETROLEUM

TABLE A4 (DAILY OBSERVATIONS - NONDOSING DAYS)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CLINICAL OBSERVATIONS

PAGE 90

STUDY DAYS: 5 THROUGH 90

ANIMAL	SEX	GROUP	CATEGORY	STUDY DAY	TIME	GRADE	OBSERVATIONS
11118	F	600 MG/KG/DAY	NORMAL	75	9:25	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				76	13:31	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				82	11:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				83	12:43	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				84	8:13	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
				90	6:56	P	NO SIGNIFICANT CLINICAL OBSERVATIONS
11118	F	600 MG/KG/DAY	EYES/EARS/NOSE	5	11:10	P	DRIED RED MATERIAL AROUND NOSE

GRADE CODE: 1 - SLIGHT 2 - MODERATE 3 - SEVERE P - PRESENT

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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 1

GROUP : UNTREATED		ANIMAL NO. / SEX								
	11011/M	11012/M	11013/M	11015/M	11021/M	11022/M	11026/M	11040/M	11044/M	11053/M
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
11	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
18	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
39	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
46	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

+ = REFER TO DRAIZE SCALE FOR DERMAL SCORING CRITERIA
SEX CODE: M = MALE F = FEMALE
SNR = SCORED, NOT REMARKABLE
NA = NOT APPLICABLE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 2

GROUP : 0 MG/KG/DAY				ANIMAL NO. / SEX						
	11001/M	11009/M	11010/M	11014/M	11029/M	11033/M	11037/M	11046/M	11052/M	11057/M
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	0/0/d	1/0	SNR	1/0/d	SNR	1/0	2/0	2/0/d	SNR	3/0
11	2/0/di	1/0/d	SNR	1/0	SNR	1/0/d	1/0/i	2/0/i	0/0/d	3/0/i
18	1/0	1/0	SNR	SNR	1/0	SNR	1/0	1/0/i	0/0/i	1/0/i
25	SNR	SNR	SNR	SNR	SNR	SNR	1/0	1/0	SNR	SNR
32	SNR	0/0/h	SNR	0/0/h	SNR	SNR	SNR	1/0/j	0/0/j	SNR
39	0/0/i	SNR	SNR	SNR	SNR	0/0/d	SNR	0/0/i	0/0/d	SNR
46	1/0	SNR	SNR	SNR	SNR	0/0/d	SNR	SNR	0/0/d	SNR
53	1/0	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	0/0/i	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	1/0	SNR	SNR	SNR	SNR	0/0/i	SNR	SNR	SNR	SNR
81	1/0	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

+ = REFER TO DRAIZE SCALE FOR DERMAL SCORING CRITERIA

SEX CODE: M = MALE F = FEMALE

d = DESQUAMATION, SNR = SCORED, NOT REMARKABLE

h = RESIDUAL TEST SUBSTANCE WITHIN DOSE SITE , i = SCABBING WITHIN DOSE SITE , j = PINPOINT SCABBING

NA = NOT APPLICABLE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 3

GROUP : 100 MG/KG/DAY		ANIMAL NO. / SEX								
	11006/M	11019/M	11020/M	11025/M	11028/M	11045/M	11047/M	11048/M	11050/M	11054/M
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	SNR	1/0	SNR	SNR	SNR	2/0/d	2/0/d	2/0/d	1/0	1/0/d
11	SNR	SNR	SNR	SNR	SNR	1/0	1/0/d	1/0/id	1/0/id	1/0
18	SNR	SNR	SNR	SNR	SNR	1/0	SNR	SNR	1/0/i	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	0/0/h	SNR	SNR	0/0/h	0/0/h	0/0/h	0/0/h	0/0/d	0/0/h
39	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	0/0/d	SNR
46	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	0/0/d
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	1/0/i	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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PROJECT NO.:WIL-402025
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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 4

GROUP : 300 MG/KG/DAY				ANIMAL NO. / SEX						
	11003/M	11005/M	11007/M	11008/M	11017/M	11018/M	11027/M	11031/M	11038/M	11043/M
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	2/0	2/0/d	2/0/d	SNR	1/0	1/1	2/0/d	SNR	2/0/d	SNR
11	SNR	3/0/i	1/0/d	SNR	1/0	SNR	SNR	SNR	SNR	SNR
18	SNR	1/0/i	1/0/i	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	SNR	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h
39	SNR	SNR	0/0/d	0/0/i	SNR	SNR	SNR	SNR	SNR	SNR
46	SNR	SNR	SNR	SNR	SNR	SNR	0/0/d	SNR	SNR	SNR
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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PROJECT NO.:WIL-402025
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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 5

GROUP : 600 MG/KG/DAY				ANIMAL NO. / SEX						
	11024/M	11030/M	11034/M	11035/M	11004/M	11042/M	11049/M	11058/M	11059/M	11060/M
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	1/0	2/0/d	2/0/d	1/0/d	3/0/d	2/0/d	2/2/d	2/1/d	2/0/d	SNR
11	SNR	1/0/id	SNR	SNR	1/0/id	1/0/d	SNR	2/0	3/1/i	SNR
18	SNR	SNR	SNR	SNR	1/0/d	SNR	SNR	0/0/d	2/0/i	SNR
25	SNR	0/0/d	SNR	SNR	0/0/d	SNR	SNR	0/0/d	1/0/d	SNR
32	0/0/h	0/0/h	SNR	0/0/h	0/0/hd	SNR	0/0/h	0/0/h	0/0/d	0/0/h
39	SNR	0/0/d	SNR	SNR	0/0/di	SNR	SNR	0/0/h	SNR	SNR
46	0/0/d	SNR	SNR	SNR	0/0/d	SNR	SNR	0/0/d	1/0/id	0/0/d
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	0/0/d	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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PROJECT NO.:WIL-402025
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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 6

GROUP :		ANIMAL NO. / SEX									
UNTREATED		11069/F	11082/F	11088/F	11089/F	11090/F	11091/F	11092/F	11093/F	11098/F	11115/F
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS										
4	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
11	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
18	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
39	SNR	SNR	SNR	0/0/d	SNR	SNR	SNR	SNR	SNR	SNR	SNR
46	SNR	SNR	SNR	SNR	SNR	SNR	0/0/d	SNR	SNR	SNR	SNR
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR	SNR

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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 7

GROUP : 0 MG/KG/DAY		ANIMAL NO. / SEX								
	11114/F	11070/F	11074/F	11079/F	11084/F	11087/F	11099/F	11110/F	11111/F	11116/F
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	1/0	SNR
11	SNR	SNR	SNR	SNR	SNR	SNR	0/0/i	2/0	SNR	SNR
18	SNR	SNR	SNR	SNR	2/1	SNR	SNR	SNR	SNR	SNR
25	1/0	SNR	0/0/i	SNR	1/0	1/0	SNR	SNR	SNR	SNR
32	SNR	1/0/j	SNR	SNR	0/0/j	SNR	SNR	SNR	0/0/h	0/0/h
39	SNR	0/0/j	1/0	SNR	SNR	SNR	1/1	0/0/d	0/0/d	0/0/d
46	SNR	1/0	0/0/i	0/0/d	2/1/id	SNR	SNR	0/0/d	SNR	SNR
53	SNR	SNR	SNR	SNR	3/2/i	SNR	SNR	SNR	SNR	SNR
60	SNR	1/1	1/0	SNR	2/2/di	SNR	SNR	SNR	SNR	SNR
67	SNR	0/0/j	0/0/j	SNR	0/0/j	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	2/1	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	3/2	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	2/0/d	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 8

GROUP : 100 MG/KG/DAY		ANIMAL NO. / SEX								
	11071/F	11072/F	11073/F	11076/F	11078/F	11083/F	11086/F	11101/F	11102/F	11113/F
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
11	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
18	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	SNR	0/0/h	0/0/h	SNR	SNR	0/0/h	0/0/h	SNR	1/0/h
39	1/0	SNR	0/0/d	SNR	SNR	SNR	SNR	1/0/d	SNR	SNR
46	SNR	SNR	SNR	SNR	SNR	SNR	SNR	0/0/d	SNR	0/0/d
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 9

GROUP : 300 MG/KG/DAY		ANIMAL NO. / SEX								
	11066/F	11075/F	11077/F	11080/F	11085/F	11094/F	11103/F	11105/F	11106/F	11119/F
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	SNR	SNR	SNR	SNR	SNR	0/0/d	0/0/d	SNR	SNR	SNR
11	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
18	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	SNR	SNR	0/0/h	SNR	SNR	SNR	SNR	SNR	SNR	0/0/j
39	SNR	SNR	SNR	0/0/d	0/0/d	0/0/d	SNR	SNR	SNR	1/0/d
46	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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TABLE A5
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL DERMAL OBSERVATIONS

PAGE 10

GROUP : 600 MG/KG/DAY				ANIMAL NO. / SEX						
	11062/F	11065/F	11096/F	11081/F	11095/F	11097/F	11104/F	11112/F	11117/F	11118/F
STUDY DAY	ERYTHEMA+/EDEMA+/OTHER FINDINGS									
4	0/0/d	SNR	SNR	1/0	SNR	0/0/d	0/0/d	SNR	SNR	1/0/d
11	SNR	SNR	SNR	SNR	SNR	SNR	SNR	1/0/d	SNR	1/0
18	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
25	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32	0/0/h	1/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h	0/0/h
39	0/0/d	SNR	0/0/d	SNR	SNR	0/0/d	SNR	SNR	SNR	0/0/d
46	SNR	SNR	SNR	0/0/d	SNR	0/0/d	SNR	SNR	SNR	SNR
53	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
60	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
67	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
74	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
81	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
88	SNR	SNR	SNR	SNR	SNR	NA	NA	NA	NA	NA
89	DEAD	DEAD	DEAD	DEAD	DEAD	SNR	SNR	SNR	SNR	SNR

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PROJECT NO.:WIL-402025
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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 1

WEEK	-2	-1	0	1	MALE GROUP: 2	UNTREATED 3	4	5
ANIMAL								
11011	191.	231.	249.	282.	306.	324.	337.	361.
11012	199.	248.	285.	338.	374.	407.	424.	455.
11013	190.	235.	254.	299.	330.	362.	388.	404.
11015	180.	218.	243.	275.	300.	325.	344.	358.
11021	190.	236.	268.	310.	333.	363.	381.	404.
11022	189.	242.	264.	323.	363.	399.	421.	449.
11026	192.	239.	269.	303.	328.	345.	360.	378.
11040	184.	227.	255.	291.	326.	352.	371.	394.
11044	203.	250.	287.	323.	357.	387.	410.	430.
11053	193.	239.	278.	310.	343.	362.	387.	409.
MEAN	191.	237.	265.	305.	336.	363.	382.	404.
S.D.	6.6	9.6	15.1	19.6	23.7	28.3	30.2	33.4
S.E.	2.1	3.0	4.8	6.2	7.5	9.0	9.5	10.6
N	10	10	10	10	10	10	10	10

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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 2

WEEK	-2	-1	0	1	MALE GROUP: 0 MG/KG/DAY	2	3	4	5
ANIMAL									
11001	196.	227.	262.	308.	331.	356.	374.	410.	
11009	186.	234.	272.	308.	335.	364.	391.	413.	
11010	202.	253.	294.	318.	340.	360.	384.	403.	
11014	194.	231.	257.	300.	327.	357.	388.	394.	
11029	186.	243.	281.	324.	367.	396.	414.	437.	
11033	202.	242.	254.	299.	325.	350.	375.	396.	
11037	197.	239.	274.	297.	327.	350.	372.	388.	
11046	193.	241.	283.	317.	344.	360.	374.	390.	
11052	175.	209.	248.	275.	302.	329.	345.	362.	
11057	187.	236.	271.	301.	322.	342.	362.	372.	
MEAN	192.	236.	270.	305.	332.	356.	378.	397.	
S.D.	8.4	11.8	14.4	13.9	16.8	17.3	18.3	21.2	
S.E.	2.6	3.7	4.5	4.4	5.3	5.5	5.8	6.7	
N	10	10	10	10	10	10	10	10	

PROJECT NO.:WIL-402025
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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 3

WEEK	-2	-1	0	1	2	3	4	5
MALE GROUP: 100 MG/KG/DAY								
ANIMAL								
11006	184.	235.	268.	297.	325.	344.	364.	385.
11019	187.	230.	272.	300.	340.	366.	388.	409.
11020	181.	220.	256.	288.	312.	335.	357.	368.
11025	199.	243.	269.	307.	327.	350.	371.	394.
11028	199.	243.	287.	316.	354.	380.	397.	427.
11045	192.	240.	279.	326.	362.	385.	418.	431.
11047	180.	224.	254.	279.	307.	329.	355.	374.
11048	200.	238.	266.	301.	341.	368.	389.	411.
11050	186.	236.	281.	318.	351.	379.	401.	417.
11054	209.	249.	275.	306.	335.	351.	362.	371.
MEAN	192.	236.	271.	304.	335.	359.	380.	399.
S.D.	9.7	9.0	10.5	14.1	17.9	19.7	21.4	23.5
S.E.	3.1	2.8	3.3	4.5	5.7	6.2	6.8	7.4
N	10	10	10	10	10	10	10	10

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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 4

WEEK	-2	-1	0	1	2	3	4	5
MALE GROUP: 300 MG/KG/DAY								
ANIMAL								
11003	193.	242.	275.	316.	356.	375.	404.	436.
11005	185.	236.	273.	309.	335.	367.	387.	413.
11007	196.	233.	264.	299.	320.	351.	373.	395.
11008	195.	251.	287.	317.	352.	375.	400.	413.
11017	192.	241.	274.	318.	347.	366.	386.	408.
11018	181.	228.	264.	298.	326.	375.	383.	400.
11027	198.	236.	275.	309.	346.	360.	384.	404.
11031	172.	223.	262.	309.	336.	367.	393.	418.
11038	198.	238.	277.	320.	346.	372.	394.	415.
11043	204.	245.	282.	313.	356.	381.	407.	430.
MEAN	191.	237.	273.	311.	342.	369.	391.	413.
S.D.	9.5	8.1	8.1	7.6	12.4	8.7	10.5	12.7
S.E.	3.0	2.6	2.5	2.4	3.9	2.8	3.3	4.0
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 5

WEEK	-2	-1	0	1	2	3	4	5
MALE GROUP: 600 MG/KG/DAY								
ANIMAL								
11024	190.	224.	251.	268.	295.	321.	337.	349.
11030	184.	222.	256.	283.	312.	347.	359.	382.
11034	197.	228.	266.	303.	336.	368.	383.	391.
11035	195.	235.	263.	293.	316.	341.	362.	374.
11004	193.	236.	271.	300.	333.	362.	389.	402.
11042	196.	239.	278.	308.	338.	371.	389.	407.
11049	189.	237.	271.	328.	366.	405.	426.	456.
11058	197.	251.	284.	301.	316.	344.	366.	382.
11059	190.	247.	284.	312.	346.	380.	408.	423.
11060	192.	241.	275.	310.	345.	375.	393.	412.
MEAN	192.	236.	270.	301.	330.	361.	381.	398.
S.D.	4.2	9.3	11.1	16.5	20.6	23.9	25.9	29.5
S.E.	1.3	3.0	3.5	5.2	6.5	7.5	8.2	9.3
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 6

WEEK	6	7	8	9	MALE GROUP: 10	UNTREATED 11	12	12'
ANIMAL								
11011	365.	390.	402.	412.	423.	445.	455.	459.
11012	465.	494.	512.	528.	534.	553.	569.	554.
11013	427.	447.	464.	484.	493.	504.	510.	508.
11015	374.	397.	409.	415.	429.	442.	449.	445.
11021	428.	443.	461.	483.	496.	520.	535.	538.
11022	478.	489.	500.	517.	526.	529.	546.	552.
11026	393.	405.	421.	429.	441.	449.	465.	457.
11040	410.	428.	458.	473.	487.	498.	507.	508.
11044	450.	468.	487.	493.	506.	525.	532.	533.
11053	418.	440.	438.	455.	474.	481.	490.	483.
MEAN	421.	440.	455.	469.	481.	495.	506.	504.
S.D.	37.1	36.3	37.7	40.5	38.8	39.1	40.7	40.8
S.E.	11.7	11.5	11.9	12.8	12.3	12.4	12.9	12.9
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 7

WEEK	6	7	8	9	MALE GROUP: 0 MG/KG/DAY 10	11	12	12'
ANIMAL								
11001	423.	445.	464.	478.	488.	502.	504.	509.
11009	424.	449.	455.	470.	486.	505.	514.	503.
11010	424.	441.	458.	467.	482.	501.	511.	503.
11014	413.	440.	456.	472.	474.	478.	497.	491.
11029	465.	483.	501.	516.	529.	543.	557.	566.
11033	414.	431.	444.	458.	471.	480.	496.	488.
11037	411.	433.	447.	460.	481.	495.	507.	505.
11046	417.	445.	468.	481.	489.	499.	515.	502.
11052	382.	397.	411.	420.	431.	439.	446.	439.
11057	382.	405.	412.	430.	446.	454.	464.	459.
MEAN	416.	437.	452.	465.	478.	490.	501.	497.
S.D.	23.4	23.8	26.3	26.7	26.3	29.0	30.0	33.3
S.E.	7.4	7.5	8.3	8.5	8.3	9.2	9.5	10.5
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 8

WEEK	6	7	8	9	MALE GROUP: 100 MG/KG/DAY 10	11	12	12'
ANIMAL								
11006	416.	434.	448.	461.	478.	494.	499.	488.
11019	435.	454.	464.	474.	491.	502.	514.	503.
11020	389.	398.	414.	431.	444.	417.	449.	451.
11025	410.	425.	428.	440.	453.	461.	473.	472.
11028	446.	477.	493.	502.	518.	540.	551.	552.
11045	461.	479.	489.	510.	518.	532.	554.	546.
11047	379.	398.	411.	414.	428.	444.	439.	438.
11048	427.	454.	459.	468.	485.	496.	508.	509.
11050	438.	463.	478.	492.	508.	514.	522.	530.
11054	379.	398.	401.	415.	431.	442.	454.	456.
MEAN	418.	438.	449.	461.	475.	484.	496.	495.
S.D.	28.6	32.2	33.5	34.8	34.5	41.2	41.2	40.3
S.E.	9.0	10.2	10.6	11.0	10.9	13.0	13.0	12.7
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 9

	MALE GROUP: 300 MG/KG/DAY							
WEEK	6	7	8	9	10	11	12	12'
ANIMAL								
11003	458.	479.	492.	504.	521.	525.	532.	527.
11005	436.	456.	473.	489.	504.	515.	534.	534.
11007	413.	446.	461.	478.	494.	510.	523.	522.
11008	437.	450.	459.	471.	492.	500.	506.	511.
11017	431.	453.	465.	469.	486.	504.	511.	456.
11018	413.	433.	453.	466.	481.	492.	508.	506.
11027	423.	447.	458.	477.	488.	497.	505.	499.
11031	444.	465.	468.	497.	511.	530.	542.	534.
11038	427.	445.	461.	478.	482.	493.	505.	497.
11043	457.	482.	493.	505.	524.	539.	553.	549.
MEAN	434.	456.	468.	483.	498.	511.	522.	514.
S.D.	15.9	15.5	13.9	14.4	15.8	16.4	17.5	26.3
S.E.	5.0	4.9	4.4	4.6	5.0	5.2	5.5	8.3
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 10

WEEK	6	7	8	9	MALE GROUP: 600 MG/KG/DAY 10	11	12	12'
ANIMAL								
11024	364.	379.	394.	412.	432.	447.	455.	454.
11030	394.	412.	422.	437.	449.	459.	468.	467.
11034	407.	419.	428.	446.	457.	460.	471.	470.
11035	376.	406.	426.	422.	435.	447.	445.	439.
11004	435.	462.	474.	483.	501.	504.	521.	508.
11042	435.	459.	466.	478.	488.	493.	501.	496.
11049	472.	486.	505.	508.	521.	536.	522.	534.
11058	395.	421.	449.	461.	480.	483.	484.	483.
11059	442.	464.	470.	477.	495.	519.	530.	533.
11060	428.	443.	449.	462.	478.	479.	484.	480.
MEAN	415.	435.	448.	459.	474.	483.	488.	486.
S.D.	33.3	32.9	32.0	29.6	29.5	30.5	29.5	31.6
S.E.	10.5	10.4	10.1	9.4	9.3	9.6	9.3	10.0
N	10	10	10	10	10	10	10	10

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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 11

WEEK	-2	-1	0	1	FEMALE GROUP: 2	UNTREATED 3	4	5
ANIMAL								
11069	145.	167.	180.	199.	213.	235.	248.	256.
11082	156.	176.	185.	216.	233.	248.	258.	263.
11088	149.	173.	182.	206.	221.	237.	252.	262.
11089	153.	182.	203.	230.	248.	262.	277.	287.
11090	142.	161.	177.	191.	215.	217.	239.	249.
11091	157.	180.	200.	215.	240.	251.	258.	269.
11092	144.	163.	174.	197.	213.	224.	234.	241.
11093	163.	188.	217.	235.	250.	270.	279.	297.
11098	155.	170.	187.	201.	212.	235.	247.	249.
11115	161.	175.	193.	216.	236.	251.	251.	266.
MEAN	153.	174.	190.	211.	228.	243.	254.	264.
S.D.	7.2	8.5	13.5	14.4	15.1	16.5	14.6	17.3
S.E.	2.3	2.7	4.3	4.6	4.8	5.2	4.6	5.5
N	10	10	10	10	10	10	10	10

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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 12

WEEK	-2	-1	0	1	2	3	4	5
FEMALE GROUP: 0 MG/KG/DAY								
ANIMAL								
11114	147.	174.	192.	216.	233.	249.	256.	260.
11070	152.	174.	190.	212.	233.	238.	254.	268.
11074	155.	186.	205.	232.	240.	254.	274.	276.
11079	143.	161.	175.	193.	207.	214.	230.	233.
11084	149.	166.	175.	207.	221.	233.	239.	249.
11087	153.	181.	197.	214.	237.	258.	268.	276.
11099	140.	166.	185.	211.	232.	253.	260.	275.
11110	153.	178.	192.	213.	235.	243.	250.	254.
11111	150.	168.	177.	206.	221.	228.	235.	247.
11116	158.	171.	188.	200.	216.	225.	232.	240.
MEAN	150.	173.	188.	210.	228.	240.	250.	258.
S.D.	5.5	7.7	9.8	10.3	10.6	14.4	15.4	15.7
S.E.	1.7	2.4	3.1	3.3	3.4	4.6	4.9	5.0
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 13

	FEMALE GROUP: 100 MG/KG/DAY							
WEEK	-2	-1	0	1	2	3	4	5
ANIMAL								
11071	149.	174.	196.	220.	237.	256.	254.	276.
11072	143.	163.	178.	196.	214.	221.	232.	233.
11073	150.	170.	181.	192.	217.	233.	238.	239.
11076	157.	181.	196.	215.	234.	249.	256.	268.
11078	147.	166.	179.	193.	206.	225.	228.	234.
11083	163.	184.	203.	217.	234.	259.	258.	265.
11086	153.	181.	194.	214.	240.	255.	266.	260.
11101	157.	176.	196.	209.	223.	234.	241.	254.
11102	145.	168.	184.	212.	228.	233.	247.	255.
11113	153.	171.	188.	209.	223.	239.	244.	251.
MEAN	152.	173.	190.	208.	226.	240.	246.	254.
S.D.	6.1	7.0	8.7	10.3	11.0	13.5	12.1	14.6
S.E.	1.9	2.2	2.7	3.3	3.5	4.3	3.8	4.6
N	10	10	10	10	10	10	10	10

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TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 14

	FEMALE GROUP: 300 MG/KG/DAY							
WEEK	-2	-1	0	1	2	3	4	5
ANIMAL								
11066	145.	166.	176.	195.	207.	227.	242.	247.
11075	164.	186.	200.	225.	238.	246.	252.	269.
11077	157.	172.	185.	213.	228.	236.	250.	255.
11080	147.	163.	175.	201.	215.	216.	226.	224.
11085	161.	179.	202.	214.	238.	252.	256.	271.
11094	155.	173.	184.	205.	222.	235.	249.	256.
11103	150.	168.	187.	210.	230.	243.	259.	268.
11105	153.	181.	198.	221.	239.	248.	262.	265.
11106	150.	177.	194.	215.	233.	244.	258.	269.
11119	143.	168.	186.	206.	224.	232.	240.	250.
MEAN	153.	173.	189.	211.	227.	238.	249.	257.
S.D.	6.8	7.3	9.5	9.1	10.6	10.9	10.9	14.6
S.E.	2.2	2.3	3.0	2.9	3.3	3.5	3.4	4.6
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 15

WEEK	-2	-1	0	1	2	3	4	5
FEMALE GROUP: 600 MG/KG/DAY								
ANIMAL								
11062	149.	170.	181.	196.	208.	222.	231.	235.
11065	156.	176.	199.	221.	244.	261.	263.	282.
11096	146.	172.	185.	211.	223.	238.	245.	250.
11081	158.	188.	208.	236.	257.	271.	286.	289.
11095	141.	161.	170.	189.	201.	219.	224.	229.
11097	151.	183.	202.	220.	238.	256.	266.	275.
11104	152.	180.	192.	210.	231.	243.	253.	250.
11112	159.	177.	190.	210.	231.	248.	257.	259.
11117	150.	170.	185.	206.	228.	249.	253.	261.
11118	146.	165.	180.	202.	220.	219.	237.	238.
MEAN	151.	174.	189.	210.	228.	243.	252.	257.
S.D.	5.7	8.2	11.4	13.4	16.4	18.1	18.2	20.3
S.E.	1.8	2.6	3.6	4.2	5.2	5.7	5.8	6.4
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

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WEEK	6	7	8	9	FEMALE GROUP: 10	UNTREATED 11	12	12'
ANIMAL								
11069	262.	272.	273.	279.	298.	292.	293.	294.
11082	276.	285.	286.	283.	289.	290.	293.	292.
11088	267.	280.	289.	293.	295.	306.	313.	306.
11089	303.	311.	320.	319.	324.	323.	335.	334.
11090	257.	264.	271.	278.	277.	289.	291.	293.
11091	278.	275.	291.	289.	299.	306.	315.	303.
11092	247.	258.	266.	268.	277.	285.	291.	288.
11093	307.	314.	324.	328.	334.	332.	343.	342.
11098	259.	267.	271.	279.	285.	285.	291.	289.
11115	272.	283.	276.	284.	288.	290.	295.	289.
MEAN	273.	281.	287.	290.	297.	300.	306.	303.
S.D.	19.4	18.7	20.4	19.0	18.8	16.5	19.6	19.5
S.E.	6.1	5.9	6.5	6.0	6.0	5.2	6.2	6.2
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

PAGE 17

	FEMALE GROUP: 0 MG/KG/DAY							
WEEK	6	7	8	9	10	11	12	12'
ANIMAL								
11114	270.	278.	277.	292.	286.	294.	298.	296.
11070	275.	277.	287.	292.	300.	299.	305.	296.
11074	281.	291.	312.	296.	295.	294.	312.	299.
11079	233.	245.	244.	252.	258.	266.	269.	259.
11084	255.	259.	277.	278.	281.	273.	288.	276.
11087	287.	301.	306.	308.	324.	320.	341.	337.
11099	282.	290.	291.	304.	306.	315.	308.	302.
11110	261.	261.	275.	278.	281.	275.	282.	269.
11111	249.	263.	268.	268.	274.	271.	276.	276.
11116	248.	256.	260.	265.	269.	271.	270.	255.
MEAN	264.	272.	280.	283.	287.	288.	295.	287.
S.D.	17.7	18.1	20.4	18.1	19.3	19.4	22.5	24.5
S.E.	5.6	5.7	6.5	5.7	6.1	6.1	7.1	7.7
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

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	FEMALE GROUP: 100 MG/KG/DAY							
WEEK	6	7	8	9	10	11	12	12'
ANIMAL								
11071	278.	303.	301.	297.	312.	311.	317.	314.
11072	247.	245.	252.	258.	262.	271.	268.	263.
11073	256.	266.	267.	279.	280.	286.	291.	286.
11076	273.	284.	293.	294.	291.	295.	305.	295.
11078	238.	248.	254.	256.	263.	261.	266.	253.
11083	282.	298.	292.	299.	307.	318.	321.	318.
11086	273.	289.	289.	278.	296.	305.	308.	300.
11101	264.	268.	286.	292.	287.	306.	311.	301.
11102	263.	268.	277.	284.	289.	288.	296.	294.
11113	250.	262.	274.	272.	280.	284.	272.	272.
MEAN	262.	273.	279.	281.	287.	293.	296.	290.
S.D.	14.5	19.8	16.7	15.4	16.4	18.0	20.5	21.2
S.E.	4.6	6.3	5.3	4.9	5.2	5.7	6.5	6.7
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

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	FEMALE GROUP: 300 MG/KG/DAY							
WEEK	6	7	8	9	10	11	12	12'
ANIMAL								
11066	242.	258.	271.	270.	271.	281.	289.	286.
11075	275.	288.	286.	298.	295.	289.	303.	298.
11077	269.	278.	281.	280.	292.	291.	302.	290.
11080	240.	246.	249.	252.	260.	254.	261.	250.
11085	282.	296.	294.	304.	311.	310.	305.	302.
11094	258.	263.	276.	279.	282.	288.	284.	287.
11103	283.	283.	289.	298.	297.	307.	305.	305.
11105	274.	280.	289.	297.	297.	305.	307.	304.
11106	275.	280.	281.	287.	289.	290.	292.	287.
11119	258.	257.	265.	273.	281.	287.	280.	280.
MEAN	266.	273.	278.	284.	288.	290.	293.	289.
S.D.	15.5	15.9	13.5	16.2	14.6	16.0	14.7	16.2
S.E.	4.9	5.0	4.3	5.1	4.6	5.1	4.7	5.1
N	10	10	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A6
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHTS [G]

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	FEMALE GROUP: 600 MG/KG/DAY							
WEEK	6	7	8	9	10	11	12	12'
ANIMAL								
11062	245.	253.	261.	262.	264.	263.	267.	261.
11065	293.	299.	300.	308.	315.	323.	323.	316.
11096	263.	275.	281.	284.	297.	301.	306.	305.
11081	296.	304.	313.	318.	321.	332.	329.	333.
11095	241.	247.	255.	256.	269.	269.	273.	276.
11097	283.	294.	292.	290.	302.	302.	308.	308.
11104	257.	273.	282.	286.	295.	306.	307.	302.
11112	267.	272.	275.	289.	296.	288.	294.	287.
11117	269.	277.	277.	285.	292.	295.	288.	288.
11118	239.	246.	251.	253.	264.	267.	269.	266.
MEAN	265.	274.	279.	283.	292.	295.	296.	294.
S.D.	20.6	20.8	19.7	21.1	20.0	23.3	22.0	22.8
S.E.	6.5	6.6	6.2	6.7	6.3	7.4	7.0	7.2
N	10	10	10	10	10	10	10	10

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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 1

WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6
ANIMAL																
11011	40.		18.		33.		24.		18.		13.		24.		4.	
11012	49.		37.		53.		36.		33.		17.		31.		10.	
11013	45.		19.		45.		31.		32.		26.		16.		23.	
11015	38.		25.		32.		25.		25.		19.		14.		16.	
11021	46.		32.		42.		23.		30.		18.		23.		24.	
11022	53.		22.		59.		40.		36.		22.		28.		29.	
11026	47.		30.		34.		25.		17.		15.		18.		15.	
11040	43.		28.		36.		35.		26.		19.		23.		16.	
11044	47.		37.		36.		34.		30.		23.		20.		20.	
11053	46.		39.		32.		33.		19.		25.		22.		9.	
MEAN	45.		29.		40.		31.		27.		20.		22.		17.	
S.D.	4.3		7.6		9.4		5.9		6.7		4.2		5.2		7.6	
S.E.	1.4		2.4		3.0		1.9		2.1		1.3		1.6		2.4	
N	10		10		10		10		10		10		10		10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 2

MALE GROUP: 0 MG/KG/DAY																
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6
ANIMAL																
11001	31.		35.		46.		23.		25.		18.		36.		13.	
11009	48.		38.		36.		27.		29.		27.		22.		11.	
11010	51.		41.		24.		22.		20.		24.		19.		21.	
11014	37.		26.		43.		27.		30.		31.		6.		19.	
11029	57.		38.		43.		43.		29.		18.		23.		28.	
11033	40.		12.		45.		26.		25.		25.		21.		18.	
11037	42.		35.		23.		30.		23.		22.		16.		23.	
11046	48.		42.		34.		27.		16.		14.		16.		27.	
11052	34.		39.		27.		27.		27.		16.		17.		20.	
11057	49.		35.		30.		21.		20.		20.		10.		10.	
MEAN	44.		34.		35.		27.		24.		22.		19.		19.	
S.D.	8.2		8.9		8.8		6.2		4.6		5.3		8.1		6.2	
S.E.	2.6		2.8		2.8		1.9		1.5		1.7		2.6		2.0	
N	10		10		10		10		10		10		10		10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 3

MALE GROUP: 100 MG/KG/DAY															
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO 6
ANIMAL															
11006	51.		33.		29.		28.		19.		20.		21.		31.
11019	43.		42.		28.		40.		26.		22.		21.		26.
11020	39.		36.		32.		24.		23.		22.		11.		21.
11025	44.		26.		38.		20.		23.		21.		23.		16.
11028	44.		44.		29.		38.		26.		17.		30.		19.
11045	48.		39.		47.		36.		23.		33.		13.		30.
11047	44.		30.		25.		28.		22.		26.		19.		5.
11048	38.		28.		35.		40.		27.		21.		22.		16.
11050	50.		45.		37.		33.		28.		22.		16.		21.
11054	40.		26.		31.		29.		16.		11.		9.		8.
MEAN	44.		35.		33.		32.		23.		22.		19.		19.
S.D.	4.5		7.4		6.4		6.9		3.7		5.6		6.3		8.5
S.E.	1.4		2.3		2.0		2.2		1.2		1.8		2.0		2.7
N	10		10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 4

MALE GROUP: 300 MG/KG/DAY															
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO 6
ANIMAL															
11003	49.		33.		41.		40.	19.		29.		32.		22.	
11005	51.		37.		36.		26.	32.		20.		26.		23.	
11007	37.		31.		35.		21.	31.		22.		22.		18.	
11008	56.		36.		30.		35.	23.		25.		13.		24.	
11017	49.		33.		44.		29.	19.		20.		22.		23.	
11018	47.		36.		34.		28.	49.		8.		17.		13.	
11027	38.		39.		34.		37.	14.		24.		20.		19.	
11031	51.		39.		47.		27.	31.		26.		25.		26.	
11038	40.		39.		43.		26.	26.		22.		21.		12.	
11043	41.		37.		31.		43.	25.		26.		23.		27.	
MEAN	46.		36.		38.		31.	27.		22.		22.		21.	
S.D.	6.5		2.8		5.8		7.1	9.8		5.8		5.1		5.1	
S.E.	2.0		0.9		1.8		2.2	3.1		1.8		1.6		1.6	
N	10		10		10		10	10		10		10		10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 5

MALE GROUP: 600 MG/KG/DAY															
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO 6
ANIMAL															
11024	34.		27.		17.		27.		26.		16.		12.		15.
11030	38.		34.		27.		29.		35.		12.		23.		12.
11034	31.		38.		37.		33.		32.		15.		8.		16.
11035	40.		28.		30.		23.		25.		21.		12.		2.
11004	43.		35.		29.		33.		29.		27.		13.		33.
11042	43.		39.		30.		30.		33.		18.		18.		28.
11049	48.		34.		57.		38.		39.		21.		30.		16.
11058	54.		33.		17.		15.		28.		22.		16.		13.
11059	57.		37.		28.		34.		34.		28.		15.		19.
11060	49.		34.		35.		35.		30.		18.		19.		16.
MEAN	44.		34.		31.		30.		31.		20.		17.		17.
S.D.	8.4		3.9		11.3		6.7		4.3		5.1		6.3		8.5
S.E.	2.7		1.2		3.6		2.1		1.4		1.6		2.0		2.7
N	10		10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 6

WEEK	MALE GROUP: UNTREATED									
	6 TO 7	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'			
ANIMAL										
11011	25.	12.	10.	11.	22.	10.	4.			
11012	29.	18.	16.	6.	19.	16.	-15.			
11013	20.	17.	20.	9.	11.	6.	-2.			
11015	23.	12.	6.	14.	13.	7.	-4.			
11021	15.	18.	22.	13.	24.	15.	3.			
11022	11.	11.	17.	9.	3.	17.	6.			
11026	12.	16.	8.	12.	8.	16.	-8.			
11040	18.	30.	15.	14.	11.	9.	1.			
11044	18.	19.	6.	13.	19.	7.	1.			
11053	22.	-2.	17.	19.	7.	9.	-7.			
MEAN	19.	15.	14.	12.	14.	11.	-2.			
S.D.	5.7	8.1	5.8	3.6	7.0	4.3	6.5			
S.E.	1.8	2.6	1.8	1.1	2.2	1.4	2.0			
N	10	10	10	10	10	10	10			

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 7

MALE GROUP: 0 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11001	22.			19.		14.		10.		14.		2.		5.
11009	25.			6.		15.		16.		19.		9.		-11.
11010	17.			17.		9.		15.		19.		10.		-8.
11014	27.			16.		16.		2.		4.		19.		-6.
11029	18.			18.		15.		13.		14.		14.		9.
11033	17.			13.		14.		13.		9.		16.		-8.
11037	22.			14.		13.		21.		14.		12.		-2.
11046	28.			23.		13.		8.		10.		16.		-13.
11052	15.			14.		9.		11.		8.		7.		-7.
11057	23.			7.		18.		16.		8.		10.		-5.
MEAN	21.			15.		14.		13.		12.		12.		-5.
S.D.	4.5			5.2		2.8		5.2		4.9		5.0		6.9
S.E.	1.4			1.6		0.9		1.6		1.6		1.6		2.2
N	10			10		10		10		10		10		10

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 8

MALE GROUP: 100 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11006	18.		14.		13.		17.		16.		5.		-11.	
11019	19.		10.		10.		17.		11.		12.		-11.	
11020	9.		16.		17.		13.		-27.		32.		2.	
11025	15.		3.		12.		13.		8.		12.		-1.	
11028	31.		16.		9.		16.		22.		11.		1.	
11045	18.		10.		21.		8.		14.		22.		-8.	
11047	19.		13.		3.		14.		16.		-5.		-1.	
11048	27.		5.		9.		17.		11.		12.		1.	
11050	25.		15.		14.		16.		6.		8.		8.	
11054	19.		3.		14.		16.		11.		12.		2.	
MEAN	20.		11.		12.		15.		9.		12.		-2.	
S.D.	6.3		5.2		4.9		2.8		13.4		9.7		6.2	
S.E.	2.0		1.6		1.6		0.9		4.2		3.1		2.0	
N	10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 9

MALE GROUP: 300 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11003	21.		13.		12.		17.		4.		7.		-5.	
11005	20.		17.		16.		15.		11.		19.		0.	
11007	33.		15.		17.		16.		16.		13.		-1.	
11008	13.		9.		12.		21.		8.		6.		5.	
11017	22.		12.		4.		17.		18.		7.		-55.	
11018	20.		20.		13.		15.		11.		16.		-2.	
11027	24.		11.		19.		11.		9.		8.		-6.	
11031	21.		3.		29.		14.		19.		12.		-8.	
11038	18.		16.		17.		4.		11.		12.		-8.	
11043	25.		11.		12.		19.		15.		14.		-4.	
MEAN	22.		13.		15.		15.		12.		11.		-8.	
S.D.	5.2		4.7		6.4		4.7		4.7		4.3		16.8	
S.E.	1.6		1.5		2.0		1.5		1.5		1.4		5.3	
N	10		10		10		10		10		10		10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 10

MALE GROUP: 600 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11024	15.		15.		18.		20.		15.		8.		-1.	
11030	18.		10.		15.		12.		10.		9.		-1.	
11034	12.		9.		18.		11.		3.		11.		-1.	
11035	30.		20.		-4.		13.		12.		-2.		-6.	
11004	27.		12.		9.		18.		3.		17.		-13.	
11042	24.		7.		12.		10.		5.		8.		-5.	
11049	14.		19.		3.		13.		15.		-14.		12.	
11058	26.		28.		12.		19.		3.		1.		-1.	
11059	22.		6.		7.		18.		24.		11.		3.	
11060	15.		6.		13.		16.		1.		5.		-4.	
MEAN	20.		13.		10.		15.		9.		5.		-2.	
S.D.	6.3		7.3		6.9		3.6		7.4		8.7		6.4	
S.E.	2.0		2.3		2.2		1.1		2.3		2.7		2.0	
N	10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 11

WEEK	FEMALE GROUP:										UNTREATED					
	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6

ANIMAL																
11069	22.			13.		19.		14.		22.		13.		8.		6.
11082	20.			9.		31.		17.		15.		10.		5.		13.
11088	24.			9.		24.		15.		16.		15.		10.		5.
11089	29.			21.		27.		18.		14.		15.		10.		16.
11090	19.			16.		14.		24.		2.		22.		10.		8.
11091	23.			20.		15.		25.		11.		7.		11.		9.
11092	19.			11.		23.		16.		11.		10.		7.		6.
11093	25.			29.		18.		15.		20.		9.		18.		10.
11098	15.			17.		14.		11.		23.		12.		2.		10.
11115	14.			18.		23.		20.		15.		0.		15.		6.
MEAN	21.			16.		21.		18.		15.		11.		10.		9.
S.D.	4.6			6.2		5.8		4.4		6.2		5.8		4.6		3.5
S.E.	1.4			2.0		1.8		1.4		1.9		1.8		1.5		1.1
N	10			10		10		10		10		10		10		10

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 12

FEMALE GROUP: 0 MG/KG/DAY															
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO 6
ANIMAL															
11114	27.		18.		24.		17.		16.		7.		4.		10.
11070	22.		16.		22.		21.		5.		16.		14.		7.
11074	31.		19.		27.		8.		14.		20.		2.		5.
11079	18.		14.		18.		14.		7.		16.		3.		0.
11084	17.		9.		32.		14.		12.		6.		10.		6.
11087	28.		16.		17.		23.		21.		10.		8.		11.
11099	26.		19.		26.		21.		21.		7.		15.		7.
11110	25.		14.		21.		22.		8.		7.		4.		7.
11111	18.		9.		29.		15.		7.		7.		12.		2.
11116	13.		17.		12.		16.		9.		7.		8.		8.
MEAN	23.		15.		23.		17.		12.		10.		8.		6.
S.D.	5.8		3.7		6.1		4.7		5.8		5.1		4.7		3.3
S.E.	1.8		1.2		1.9		1.5		1.8		1.6		1.5		1.1
N	10		10		10		10		10		10		10		10

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 13

FEMALE GROUP: 100 MG/KG/DAY																
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6

ANIMAL																
11071	25.			22.		24.		17.		19.		-2.		22.		2.
11072	20.			15.		18.		18.		7.		11.		1.		14.
11073	20.			11.		11.		25.		16.		5.		1.		17.
11076	24.			15.		19.		19.		15.		7.		12.		5.
11078	19.			13.		14.		13.		19.		3.		6.		4.
11083	21.			19.		14.		17.		25.		-1.		7.		17.
11086	28.			13.		20.		26.		15.		11.		-6.		13.
11101	19.			20.		13.		14.		11.		7.		13.		10.
11102	23.			16.		28.		16.		5.		14.		8.		8.
11113	18.			17.		21.		14.		16.		5.		7.		-1.
MEAN		22.		16.		18.		18.		15.		6.		7.		9.
S.D.		3.2		3.4		5.3		4.4		5.9		5.2		7.7		6.3
S.E.		1.0		1.1		1.7		1.4		1.9		1.6		2.4		2.0
N		10		10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 14

FEMALE GROUP: 300 MG/KG/DAY																
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6

ANIMAL																
11066	21.			10.		19.		12.		20.		15.		5.		-5.
11075	22.			14.		25.		13.		8.		6.		17.		6.
11077	15.			13.		28.		15.		8.		14.		5.		14.
11080	16.			12.		26.		14.		1.		10.		-2.		16.
11085	18.			23.		12.		24.		14.		4.		15.		11.
11094	18.			11.		21.		17.		13.		14.		7.		2.
11103	18.			19.		23.		20.		13.		16.		9.		15.
11105	28.			17.		23.		18.		9.		14.		3.		9.
11106	27.			17.		21.		18.		11.		14.		11.		6.
11119	25.			18.		20.		18.		8.		8.		10.		8.
MEAN	21.			15.		22.		17.		11.		12.		8.		8.
S.D.	4.6			4.1		4.4		3.6		5.0		4.2		5.7		6.4
S.E.	1.5			1.3		1.4		1.1		1.6		1.3		1.8		2.0
N	10			10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 15

FEMALE GROUP: 600 MG/KG/DAY																
WEEK	-2 TO	-1	-1 TO	0	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6

ANIMAL																
11062	21.			11.		15.		12.		14.		9.		4.		10.
11065	20.			23.		22.		23.		17.		2.		19.		11.
11096	26.			13.		26.		12.		15.		7.		5.		13.
11081	30.			20.		28.		21.		14.		15.		3.		7.
11095	20.			9.		19.		12.		18.		5.		5.		12.
11097	32.			19.		18.		18.		18.		10.		9.		8.
11104	28.			12.		18.		21.		12.		10.		-3.		7.
11112	18.			13.		20.		21.		17.		9.		2.		8.
11117	20.			15.		21.		22.		21.		4.		8.		8.
11118	19.			15.		22.		18.		-1.		18.		1.		1.
MEAN		23.		15.		21.		18.		15.		9.		5.		9.
S.D.		5.1		4.4		3.9		4.4		6.0		4.9		5.9		3.4
S.E.		1.6		1.4		1.2		1.4		1.9		1.5		1.9		1.1
N		10		10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 16

WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	FEMALE GROUP:			UNTREATED			
								10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11069		10.		1.		6.		19.		-6.		1.		1.
11082		9.		1.		-3.		6.		1.		3.		-1.
11088		13.		9.		4.		2.		11.		7.		-7.
11089		8.		9.		-1.		5.		-1.		12.		-1.
11090		7.		7.		7.		-1.		12.		2.		2.
11091		-3.		16.		-2.		10.		7.		9.		-12.
11092		11.		8.		2.		9.		8.		6.		-3.
11093		7.		10.		4.		6.		-2.		11.		-1.
11098		8.		4.		8.		6.		0.		6.		-2.
11115		11.		-7.		8.		4.		2.		5.		-6.
MEAN		8.		6.		3.		7.		3.		6.		-3.
S.D.		4.4		6.3		4.1		5.4		6.0		3.7		4.2
S.E.		1.4		2.0		1.3		1.7		1.9		1.2		1.3
N		10		10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 17

FEMALE GROUP: 0 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11114	8.			-1.		15.		-6.		8.		4.		-2.
11070	2.			10.		5.		8.		-1.		6.		-9.
11074	10.			21.		-16.		-1.		-1.		18.		-13.
11079	12.			-1.		8.		6.		8.		3.		-10.
11084	4.			18.		1.		3.		-8.		15.		-12.
11087	14.			5.		2.		16.		-4.		21.		-4.
11099	8.			1.		13.		2.		9.		-7.		-6.
11110	0.			14.		3.		3.		-6.		7.		-13.
11111	14.			5.		0.		6.		-3.		5.		0.
11116	8.			4.		5.		4.		2.		-1.		-15.
MEAN	8.			8.		4.		4.		0.		7.		-8.
S.D.	4.8			7.8		8.5		5.8		6.1		8.6		5.1
S.E.	1.5			2.5		2.7		1.8		1.9		2.7		1.6
N	10			10		10		10		10		10		10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 18

FEMALE GROUP: 100 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11071	25.			-2.		-4.		15.		-1.		6.		-3.
11072	-2.			7.		6.		4.		9.		-3.		-5.
11073	10.			1.		12.		1.		6.		5.		-5.
11076	11.			9.		1.		-3.		4.		10.		-10.
11078	10.			6.		2.		7.		-2.		5.		-13.
11083	16.			-6.		7.		8.		11.		3.		-3.
11086	16.			0.		-11.		18.		9.		3.		-8.
11101	4.			18.		6.		-5.		19.		5.		-10.
11102	5.			9.		7.		5.		-1.		8.		-2.
11113	12.			12.		-2.		8.		4.		-12.		0.
MEAN	11.			5.		2.		6.		6.		3.		-6.
S.D.	7.5			7.2		6.7		7.2		6.5		6.3		4.2
S.E.	2.4			2.3		2.1		2.3		2.1		2.0		1.3
N	10			10		10		10		10		10		10

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 19

FEMALE GROUP: 300 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11066	16.		13.		-1.		1.		10.		8.		-3.	
11075	13.		-2.		12.		-3.		-6.		14.		-5.	
11077	9.		3.		-1.		12.		-1.		11.		-12.	
11080	6.		3.		3.		8.		-6.		7.		-11.	
11085	14.		-2.		10.		7.		-1.		-5.		-3.	
11094	5.		13.		3.		3.		6.		-4.		3.	
11103	0.		6.		9.		-1.		10.		-2.		0.	
11105	6.		9.		8.		0.		8.		2.		-3.	
11106	5.		1.		6.		2.		1.		2.		-5.	
11119	-1.		8.		8.		8.		6.		-7.		0.	
MEAN	7.		5.		6.		4.		3.		3.		-4.	
S.D.	5.7		5.5		4.5		4.8		6.1		7.2		4.7	
S.E.	1.8		1.7		1.4		1.5		1.9		2.3		1.5	
N	10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A7
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL BODY WEIGHT CHANGES [G]

PAGE 20

FEMALE GROUP: 600 MG/KG/DAY														
WEEK	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO	12'

ANIMAL														
11062	8.			8.		1.		2.		-1.		4.		-6.
11065	6.			1.		8.		7.		8.		0.		-7.
11096	12.			6.		3.		13.		4.		5.		-1.
11081	8.			9.		5.		3.		11.		-3.		4.
11095	6.			8.		1.		13.		0.		4.		3.
11097	11.			-2.		-2.		12.		0.		6.		0.
11104	16.			9.		4.		9.		11.		1.		-5.
11112	5.			3.		14.		7.		-8.		6.		-7.
11117	8.			0.		8.		7.		3.		-7.		0.
11118	7.			5.		2.		11.		3.		2.		-3.
MEAN	9.			5.		4.		8.		3.		2.		-2.
S.D.	3.4			4.0		4.6		3.9		5.9		4.2		4.0
S.E.	1.1			1.3		1.5		1.2		1.9		1.3		1.3
N	10			10		10		10		10		10		10

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 1

WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8
ANIMAL								
11011	33.	57.	75.	88.	112.	116.	141.	153.
11012	53.	89.	122.	139.	170.	180.	209.	227.
11013	45.	76.	108.	134.	150.	173.	193.	210.
11015	32.	57.	82.	101.	115.	131.	154.	166.
11021	42.	65.	95.	113.	136.	160.	175.	193.
11022	59.	99.	135.	157.	185.	214.	225.	236.
11026	34.	59.	76.	91.	109.	124.	136.	152.
11040	36.	71.	97.	116.	139.	155.	173.	203.
11044	36.	70.	100.	123.	143.	163.	181.	200.
11053	32.	65.	84.	109.	131.	140.	162.	160.
MEAN	40.	71.	97.	117.	139.	156.	175.	190.
S.D.	9.4	13.9	19.8	21.8	24.7	29.4	28.5	30.6
S.E.	3.0	4.4	6.3	6.9	7.8	9.3	9.0	9.7
N	10	10	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 2

MALE GROUP: 0 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11001	46.	69.	94.	112.	148.	161.	183.	202.	
11009	36.	63.	92.	119.	141.	152.	177.	183.	
11010	24.	46.	66.	90.	109.	130.	147.	164.	
11014	43.	70.	100.	131.	137.	156.	183.	199.	
11029	43.	86.	115.	133.	156.	184.	202.	220.	
11033	45.	71.	96.	121.	142.	160.	177.	190.	
11037	23.	53.	76.	98.	114.	137.	159.	173.	
11046	34.	61.	77.	91.	107.	134.	162.	185.	
11052	27.	54.	81.	97.	114.	134.	149.	163.	
11057	30.	51.	71.	91.	101.	111.	134.	141.	
MEAN	35.	62.	87.	108.	127.	146.	167.	182.	
S.D.	8.8	12.0	15.1	16.9	19.8	20.7	20.7	22.7	
S.E.	2.8	3.8	4.8	5.4	6.3	6.5	6.5	7.2	
N	10	10	10	10	10	10	10	10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 3

MALE GROUP: 100 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11006	29.	57.	76.	96.	117.	148.	166.	180.	
11019	28.	68.	94.	116.	137.	163.	182.	192.	
11020	32.	56.	79.	101.	112.	133.	142.	158.	
11025	38.	58.	81.	102.	125.	141.	156.	159.	
11028	29.	67.	93.	110.	140.	159.	190.	206.	
11045	47.	83.	106.	139.	152.	182.	200.	210.	
11047	25.	53.	75.	101.	120.	125.	144.	157.	
11048	35.	75.	102.	123.	145.	161.	188.	193.	
11050	37.	70.	98.	120.	136.	157.	182.	197.	
11054	31.	60.	76.	87.	96.	104.	123.	126.	
MEAN	33.	65.	88.	110.	128.	147.	167.	178.	
S.D.	6.4	9.6	11.9	15.3	17.1	22.3	25.2	26.9	
S.E.	2.0	3.0	3.8	4.8	5.4	7.1	8.0	8.5	
N	10	10	10	10	10	10	10	10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 4

MALE GROUP: 300 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11003	41.	81.	100.	129.	161.	183.	204.	217.	
11005	36.	62.	94.	114.	140.	163.	183.	200.	
11007	35.	56.	87.	109.	131.	149.	182.	197.	
11008	30.	65.	88.	113.	126.	150.	163.	172.	
11017	44.	73.	92.	112.	134.	157.	179.	191.	
11018	34.	62.	111.	119.	136.	149.	169.	189.	
11027	34.	71.	85.	109.	129.	148.	172.	183.	
11031	47.	74.	105.	131.	156.	182.	203.	206.	
11038	43.	69.	95.	117.	138.	150.	168.	184.	
11043	31.	74.	99.	125.	148.	175.	200.	211.	
MEAN	38.	69.	96.	118.	140.	161.	182.	195.	
S.D.	5.8	7.4	8.3	8.0	11.6	14.3	15.2	13.9	
S.E.	1.8	2.3	2.6	2.5	3.7	4.5	4.8	4.4	
N	10	10	10	10	10	10	10	10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 5

MALE GROUP: 600 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11024	17.	44.	70.	86.	98.	113.	128.	143.	
11030	27.	56.	91.	103.	126.	138.	156.	166.	
11034	37.	70.	102.	117.	125.	141.	153.	162.	
11035	30.	53.	78.	99.	111.	113.	143.	163.	
11004	29.	62.	91.	118.	131.	164.	191.	203.	
11042	30.	60.	93.	111.	129.	157.	181.	188.	
11049	57.	95.	134.	155.	185.	201.	215.	234.	
11058	17.	32.	60.	82.	98.	111.	137.	165.	
11059	28.	62.	96.	124.	139.	158.	180.	186.	
11060	35.	70.	100.	118.	137.	153.	168.	174.	
MEAN	31.	60.	92.	111.	128.	145.	165.	178.	
S.D.	11.3	16.8	20.1	20.8	24.9	28.2	26.9	25.7	
S.E.	3.6	5.3	6.4	6.6	7.9	8.9	8.5	8.1	
N	10	10	10	10	10	10	10	10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 6

WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	MALE GROUP: UNTREATED 0 TO 12'
ANIMAL					
11011	163.	174.	196.	206.	210.
11012	243.	249.	268.	284.	269.
11013	230.	239.	250.	256.	254.
11015	172.	186.	199.	206.	202.
11021	215.	228.	252.	267.	270.
11022	253.	262.	265.	282.	288.
11026	160.	172.	180.	196.	188.
11040	218.	232.	243.	252.	253.
11044	206.	219.	238.	245.	246.
11053	177.	196.	203.	212.	205.
MEAN	204.	216.	229.	241.	239.
S.D.	33.8	31.9	31.8	33.1	34.5
S.E.	10.7	10.1	10.1	10.5	10.9
N	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 7

MALE GROUP: 0 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12'
ANIMAL					
11001	216.	226.	240.	242.	247.
11009	198.	214.	233.	242.	231.
11010	173.	188.	207.	217.	209.
11014	215.	217.	221.	240.	234.
11029	235.	248.	262.	276.	285.
11033	204.	217.	226.	242.	234.
11037	186.	207.	221.	233.	231.
11046	198.	206.	216.	232.	219.
11052	172.	183.	191.	198.	191.
11057	159.	175.	183.	193.	188.
MEAN	196.	208.	220.	232.	227.
S.D.	23.4	21.7	23.0	24.0	28.1
S.E.	7.4	6.9	7.3	7.6	8.9
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 8

MALE GROUP: 100 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12 ¹
ANIMAL					
11006	193.	210.	226.	231.	220.
11019	202.	219.	230.	242.	231.
11020	175.	188.	161.	193.	195.
11025	171.	184.	192.	204.	203.
11028	215.	231.	253.	264.	265.
11045	231.	239.	253.	275.	267.
11047	160.	174.	190.	185.	184.
11048	202.	219.	230.	242.	243.
11050	211.	227.	233.	241.	249.
11054	140.	156.	167.	179.	181.
MEAN	190.	205.	214.	226.	224.
S.D.	27.9	27.5	33.6	33.4	32.2
S.E.	8.8	8.7	10.6	10.6	10.2
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 9

MALE GROUP: 300 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12 ¹
ANIMAL					
11003	229.	246.	250.	257.	252.
11005	216.	231.	242.	261.	261.
11007	214.	230.	246.	259.	258.
11008	184.	205.	213.	219.	224.
11017	195.	212.	230.	237.	182.
11018	202.	217.	228.	244.	242.
11027	202.	213.	222.	230.	224.
11031	235.	249.	268.	280.	272.
11038	201.	205.	216.	228.	220.
11043	223.	242.	257.	271.	267.
MEAN	210.	225.	237.	249.	240.
S.D.	16.0	16.8	18.3	20.1	27.8
S.E.	5.1	5.3	5.8	6.3	8.8
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 10

MALE GROUP: 600 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12 ¹
ANIMAL					
11024	161.	181.	196.	204.	203.
11030	181.	193.	203.	212.	211.
11034	180.	191.	194.	205.	204.
11035	159.	172.	184.	182.	176.
11004	212.	230.	233.	250.	237.
11042	200.	210.	215.	223.	218.
11049	237.	250.	265.	251.	263.
11058	177.	196.	199.	200.	199.
11059	193.	211.	235.	246.	249.
11060	187.	203.	204.	209.	205.
MEAN	189.	204.	213.	218.	217.
S.D.	23.4	23.1	24.6	23.6	26.0
S.E.	7.4	7.3	7.8	7.5	8.2
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 11

WEEK	FEMALE GROUP: UNTREATED															
	0 TO	1	0 TO	2	0 TO	3	0 TO	4	0 TO	5	0 TO	6	0 TO	7	0 TO	8
ANIMAL																
11069	19.		33.		55.		68.		76.		82.		92.		93.	
11082	31.		48.		63.		73.		78.		91.		100.		101.	
11088	24.		39.		55.		70.		80.		85.		98.		107.	
11089	27.		45.		59.		74.		84.		100.		108.		117.	
11090	14.		38.		40.		62.		72.		80.		87.		94.	
11091	15.		40.		51.		58.		69.		78.		75.		91.	
11092	23.		39.		50.		60.		67.		73.		84.		92.	
11093	18.		33.		53.		62.		80.		90.		97.		107.	
11098	14.		25.		48.		60.		62.		72.		80.		84.	
11115	23.		43.		58.		58.		73.		79.		90.		83.	
MEAN	21.		38.		53.		65.		74.		83.		91.		97.	
S.D.	5.8		6.7		6.5		6.2		6.8		8.7		10.0		10.9	
S.E.	1.8		2.1		2.0		2.0		2.1		2.7		3.2		3.4	
N	10		10		10		10		10		10		10		10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 12

FEMALE GROUP: 0 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11114	24.	41.	57.	64.	68.	78.	86.	85.	
11070	22.	43.	48.	64.	78.	85.	87.	97.	
11074	27.	35.	49.	69.	71.	76.	86.	107.	
11079	18.	32.	39.	55.	58.	58.	70.	69.	
11084	32.	46.	58.	64.	74.	80.	84.	102.	
11087	17.	40.	61.	71.	79.	90.	104.	109.	
11099	26.	47.	68.	75.	90.	97.	105.	106.	
11110	21.	43.	51.	58.	62.	69.	69.	83.	
11111	29.	44.	51.	58.	70.	72.	86.	91.	
11116	12.	28.	37.	44.	52.	60.	68.	72.	
MEAN	23.	40.	52.	62.	70.	77.	85.	92.	
S.D.	6.1	6.3	9.5	8.9	11.0	12.4	13.1	14.5	
S.E.	1.9	2.0	3.0	2.8	3.5	3.9	4.1	4.6	
N	10	10	10	10	10	10	10	10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 13

FEMALE GROUP: 100 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11071	24.	41.	60.	58.	80.	82.	107.	105.	
11072	18.	36.	43.	54.	55.	69.	67.	74.	
11073	11.	36.	52.	57.	58.	75.	85.	86.	
11076	19.	38.	53.	60.	72.	77.	88.	97.	
11078	14.	27.	46.	49.	55.	59.	69.	75.	
11083	14.	31.	56.	55.	62.	79.	95.	89.	
11086	20.	46.	61.	72.	66.	79.	95.	95.	
11101	13.	27.	38.	45.	58.	68.	72.	90.	
11102	28.	44.	49.	63.	71.	79.	84.	93.	
11113	21.	35.	51.	56.	63.	62.	74.	86.	
MEAN	18.	36.	51.	57.	64.	73.	84.	89.	
S.D.	5.3	6.5	7.2	7.4	8.2	7.9	13.1	9.5	
S.E.	1.7	2.1	2.3	2.3	2.6	2.5	4.1	3.0	
N	10	10	10	10	10	10	10	10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 14

FEMALE GROUP: 300 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11066	19.	31.	51.	66.	71.	66.	82.	95.	
11075	25.	38.	46.	52.	69.	75.	88.	86.	
11077	28.	43.	51.	65.	70.	84.	93.	96.	
11080	26.	40.	41.	51.	49.	65.	71.	74.	
11085	12.	36.	50.	54.	69.	80.	94.	92.	
11094	21.	38.	51.	65.	72.	74.	79.	92.	
11103	23.	43.	56.	72.	81.	96.	96.	102.	
11105	23.	41.	50.	64.	67.	76.	82.	91.	
11106	21.	39.	50.	64.	75.	81.	86.	87.	
11119	20.	38.	46.	54.	64.	72.	71.	79.	
MEAN	22.	39.	49.	61.	69.	77.	84.	89.	
S.D.	4.4	3.5	4.0	7.3	8.3	9.1	8.9	8.2	
S.E.	1.4	1.1	1.3	2.3	2.6	2.9	2.8	2.6	
N	10	10	10	10	10	10	10	10	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 15

FEMALE GROUP: 600 MG/KG/DAY									
WEEK	0 TO 1	0 TO 2	0 TO 3	0 TO 4	0 TO 5	0 TO 6	0 TO 7	0 TO 8	
ANIMAL									
11062	15.	27.	41.	50.	54.	64.	72.	80.	
11065	22.	45.	62.	64.	83.	94.	100.	101.	
11096	26.	38.	53.	60.	65.	78.	90.	96.	
11081	28.	49.	63.	78.	81.	88.	96.	105.	
11095	19.	31.	49.	54.	59.	71.	77.	85.	
11097	18.	36.	54.	64.	73.	81.	92.	90.	
11104	18.	39.	51.	61.	58.	65.	81.	90.	
11112	20.	41.	58.	67.	69.	77.	82.	85.	
11117	21.	43.	64.	68.	76.	84.	92.	92.	
11118	22.	40.	39.	57.	58.	59.	66.	71.	
MEAN	21.	39.	53.	62.	68.	76.	85.	90.	
S.D.	3.9	6.5	8.7	7.9	10.4	11.3	11.0	10.0	
S.E.	1.2	2.0	2.8	2.5	3.3	3.6	3.5	3.2	
N	10	10	10	10	10	10	10	10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 16

WEEK	FEMALE GROUP: UNTREATED				
	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12'
ANIMAL					
11069	99.	118.	112.	113.	114.
11082	98.	104.	105.	108.	107.
11088	111.	113.	124.	131.	124.
11089	116.	121.	120.	132.	131.
11090	101.	100.	112.	114.	116.
11091	89.	99.	106.	115.	103.
11092	94.	103.	111.	117.	114.
11093	111.	117.	115.	126.	125.
11098	92.	98.	98.	104.	102.
11115	91.	95.	97.	102.	96.
MEAN	100.	107.	110.	116.	113.
S.D.	9.5	9.5	8.7	10.5	11.3
S.E.	3.0	3.0	2.8	3.3	3.6
N	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 17

FEMALE GROUP: 0 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12'
ANIMAL					
11114	100.	94.	102.	106.	104.
11070	102.	110.	109.	115.	106.
11074	91.	90.	89.	107.	94.
11079	77.	83.	91.	94.	84.
11084	103.	106.	98.	113.	101.
11087	111.	127.	123.	144.	140.
11099	119.	121.	130.	123.	117.
11110	86.	89.	83.	90.	77.
11111	91.	97.	94.	99.	99.
11116	77.	81.	83.	82.	67.
MEAN	96.	100.	100.	107.	99.
S.D.	13.8	15.7	16.1	17.9	20.7
S.E.	4.4	5.0	5.1	5.6	6.5
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 18

FEMALE GROUP: 100 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12 ¹
ANIMAL					
11071	101.	116.	115.	121.	118.
11072	80.	84.	93.	90.	85.
11073	98.	99.	105.	110.	105.
11076	98.	95.	99.	109.	99.
11078	77.	84.	82.	87.	74.
11083	96.	104.	115.	118.	115.
11086	84.	102.	111.	114.	106.
11101	96.	91.	110.	115.	105.
11102	100.	105.	104.	112.	110.
11113	84.	92.	96.	84.	84.
MEAN	91.	97.	103.	106.	100.
S.D.	9.1	10.0	10.6	13.6	14.5
S.E.	2.9	3.2	3.4	4.3	4.6
N	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 19

FEMALE GROUP: 300 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12'
ANIMAL					
11066	94.	95.	105.	113.	110.
11075	98.	95.	89.	103.	98.
11077	95.	107.	106.	117.	105.
11080	77.	85.	79.	86.	75.
11085	102.	109.	108.	103.	100.
11094	95.	98.	104.	100.	103.
11103	111.	110.	120.	118.	118.
11105	99.	99.	107.	109.	106.
11106	93.	95.	96.	98.	93.
11119	87.	95.	101.	94.	94.
MEAN	95.	99.	102.	104.	100.
S.D.	9.0	7.8	11.3	10.3	11.6
S.E.	2.8	2.5	3.6	3.2	3.7
N	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A8
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL CUMULATIVE BODY WEIGHT CHANGES [G]

PAGE 20

FEMALE GROUP: 600 MG/KG/DAY					
WEEK	0 TO 9	0 TO 10	0 TO 11	0 TO 12	0 TO 12'
ANIMAL					
11062	81.	83.	82.	86.	80.
11065	109.	116.	124.	124.	117.
11096	99.	112.	116.	121.	120.
11081	110.	113.	124.	121.	125.
11095	86.	99.	99.	103.	106.
11097	88.	100.	100.	106.	106.
11104	94.	103.	114.	115.	110.
11112	99.	106.	98.	104.	97.
11117	100.	107.	110.	103.	103.
11118	73.	84.	87.	89.	86.
MEAN	94.	102.	105.	107.	105.
S.D.	11.9	11.3	14.6	13.1	14.3
S.E.	3.8	3.6	4.6	4.2	4.5
N	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 1

	MALE GROUP:										UNTREATED						
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	

ANIMAL																	
11011	27.		29.		30.		32.		30.		31.		32.		32.		
11012	29.		17.		36.		36.		35.		39.		38.		37.		
11013	22.		31.		36.		35.		30.		32.		33.		33.		
11015	25.		25.		33.		35.		31.		33.		34.		33.		
11021	25.		30.		30.		32.		33.		35.		36.		33.		
11022	25.		28.		32.		35.		35.		37.		39.		36.		
11026	28.		33.		34.		36.		34.		35.		34.		31.		
11040	27.		25.		31.		34.		33.		34.		33.		33.		
11044	25.		27.		31.		35.		33.		33.		34.		34.		
11053	25.		30.		32.		33.		34.		34.		34.		33.		
MEAN	26.		28.		33.		34.		33.		34.		35.		34.		
S.D.	2.0		4.5		2.2		1.5		1.9		2.4		2.3		1.8		
S.E.	0.6		1.4		0.7		0.5		0.6		0.7		0.7		0.6		
N	10		10		10		10		10		10		10		10		

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 2

MALE GROUP: 0 MG/KG/DAY																
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11001	25.		33.		36.		38.		38.		43.		37.		36.	
11009	27.		31.		33.		36.		35.		38.		33.		34.	
11010	27.		29.		32.		33.		35.		37.		33.		34.	
11014	28.		30.		34.		40.		39.		37.		37.		37.	
11029	26.		30.		36.		39.		38.		40.		38.		35.	
11033	25.		27.		30.		33.		33.		36.		30.		33.	
11037	28.		32.		33.		33.		32.		37.		33.		35.	
11046	25.		32.		32.		36.		34.		34.		34.		34.	
11052	22.		29.		33.		34.		34.		38.		34.		34.	
11057	25.		29.		29.		35.		36.		35.		34.		34.	
MEAN	26.		30.		33.		36.		35.		38.		34.		35.	
S.D.	1.8		1.8		2.3		2.6		2.3		2.5		2.4		1.2	
S.E.	0.6		0.6		0.7		0.8		0.7		0.8		0.8		0.4	
N	10		10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 3

MALE GROUP: 100 MG/KG/DAY																
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11006	29.		34.		32.		36.		35.		38.		37.		36.	
11019	25.		26.		31.		34.		31.		38.		33.		33.	
11020	24.		30.		33.		33.		34.		38.		34.		33.	
11025	30.		36.		33.		35.		36.		38.		35.		35.	
11028	26.		30.		33.		36.		34.		40.		37.		41.	
11045	29.		37.		37.		43.		38.		41.		43.		41.	
11047	23.		27.		29.		32.		32.		34.		31.		31.	
11048	24.		29.		34.		38.		35.		36.		34.		34.	
11050	27.		31.		33.		38.		35.		41.		38.		36.	
11054	26.		29.		33.		34.		33.		36.		32.		32.	
MEAN	26.		31.		33.		36.		34.		38.		35.		35.	
S.D.	2.4		3.7		2.0		3.2		2.0		2.3		3.5		3.5	
S.E.	0.8		1.2		0.6		1.0		0.6		0.7		1.1		1.1	
N	10		10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 4

MALE GROUP: 300 MG/KG/DAY																
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11003	25.		27.		32.		33.		35.		36.		26.		35.	
11005	28.		32.		34.		37.		36.		34.		38.		39.	
11007	24.		29.		29.		33.		32.		34.		32.		34.	
11008	29.		34.		39.		39.		47.		39.		41.		36.	
11017	23.		50.		35.		36.		35.		36.		33.		35.	
11018	27.		34.		35.		38.		38.		35.		34.		32.	
11027	25.		32.		35.		36.		37.		37.		25.		36.	
11031	27.		33.		34.		39.		37.		38.		36.		37.	
11038	26.		34.		34.		39.		37.		37.		34.		36.	
11043	30.		34.		45.		49.		45.		46.		44.		45.	
MEAN	26.		34.		35.		38.		38.		37.		34.		37.	
S.D.	2.2		6.1		4.3		4.5		4.6		3.5		5.9		3.5	
S.E.	0.7		1.9		1.3		1.4		1.5		1.1		1.9		1.1	
N	10		10		10		10		10		10		10		10	

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 5

MALE GROUP: 600 MG/KG/DAY																
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11024	25.		25.		29.		33.		32.		31.		33.		33.	
11030	24.		32.		32.		35.		35.		35.		35.		34.	
11034	25.		29.		33.		40.		33.		34.		33.		32.	
11035	26.		29.		31.		35.		35.		34.		31.		35.	
11004	25.		28.		33.		35.		37.		35.		34.		34.	
11042	25.		35.		36.		39.		36.		37.		39.		39.	
11049	27.		36.		38.		41.		39.		40.		38.		39.	
11058	30.		30.		31.		36.		36.		35.		34.		32.	
11059	30.		34.		39.		41.		41.		40.		40.		37.	
11060	26.		31.		38.		42.		38.		36.		38.		37.	
MEAN	26.		31.		34.		38.		36.		36.		36.		35.	
S.D.	2.1		3.4		3.5		3.2		2.7		2.8		3.0		2.7	
S.E.	0.7		1.1		1.1		1.0		0.9		0.9		1.0		0.8	
N	10		10		10		10		10		10		10		10	

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 6

WEEK	MALE GROUP: UNTREATED					
	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11011	33.	32.	35.	35.	35.	38.
11012	38.	39.	39.	42.	41.	45.
11013	35.	37.	34.	37.	36.	40.
11015	36.	32.	36.	52.	36.	36.
11021	35.	36.	36.	39.	38.	39.
11022	36.	37.	40.	38.	39.	41.
11026	54.	33.	34.	35.	36.	36.
11040	38.	33.	37.	37.	37.	40.
11044	36.	34.	37.	39.	39.	40.
11053	32.	33.	37.	35.	36.	38.
MEAN	37.	35.	37.	39.	37.	39.
S.D.	6.2	2.5	2.0	5.1	1.9	2.6
S.E.	1.9	0.8	0.6	1.6	0.6	0.8
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 7

MALE GROUP: 0 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11001	39.	40.	39.	40.	40.	39.
11009	33.	35.	36.	37.	36.	38.
11010	34.	34.	34.	34.	35.	37.
11014	37.	37.	37.	36.	38.	39.
11029	39.	39.	42.	40.	42.	44.
11033	34.	37.	36.	37.	38.	36.
11037	36.	34.	37.	37.	39.	40.
11046	34.	36.	36.	36.	37.	36.
11052	32.	33.	34.	33.	35.	35.
11057	32.	36.	35.	36.	36.	39.
MEAN	35.	36.	37.	37.	38.	38.
S.D.	2.6	2.2	2.4	2.2	2.3	2.6
S.E.	0.8	0.7	0.8	0.7	0.7	0.8
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 8

MALE GROUP: 100 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11006	37.	39.	40.	40.	40.	42.
11019	34.	34.	34.	34.	35.	32.
11020	36.	35.	38.	34.	33.	40.
11025	35.	35.	40.	38.	37.	36.
11028	39.	38.	41.	41.	43.	41.
11045	40.	42.	42.	43.	45.	41.
11047	34.	32.	34.	34.	30.	32.
11048	34.	35.	35.	36.	35.	36.
11050	39.	37.	39.	37.	41.	38.
11054	32.	32.	34.	34.	34.	33.
MEAN	36.	36.	38.	37.	37.	37.
S.D.	2.7	3.1	3.2	3.3	4.8	3.9
S.E.	0.8	1.0	1.0	1.0	1.5	1.2
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

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SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 9

MALE GROUP: 300 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11003	35.	37.	34.	36.	33.	34.
11005	37.	38.	39.	41.	39.	36.
11007	36.	35.	36.	35.	36.	35.
11008	40.	38.	41.	41.	40.	39.
11017	36.	34.	39.	38.	37.	14.
11018	36.	34.	36.	36.	37.	33.
11027	42.	35.	40.	37.	39.	38.
11031	38.	38.	42.	42.	43.	39.
11038	37.	34.	39.	39.	41.	36.
11043	44.	43.	47.	50.	48.	51.
MEAN	38.	37.	39.	40.	39.	36.
S.D.	3.0	2.8	3.7	4.4	4.1	9.1
S.E.	0.9	0.9	1.2	1.4	1.3	2.9
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 10

MALE GROUP: 600 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11024	33.	35.	38.	35.	36.	36.
11030	35.	35.	35.	35.	35.	39.
11034	38.	35.	36.	35.	37.	37.
11035	35.	39.	35.	35.	33.	35.
11004	38.	35.	39.	37.	39.	42.
11042	39.	36.	37.	38.	38.	36.
11049	42.	39.	39.	38.	34.	40.
11058	37.	35.	36.	36.	36.	38.
11059	37.	37.	41.	40.	44.	38.
11060	35.	36.	38.	36.	36.	38.
MEAN	37.	36.	37.	37.	37.	38.
S.D.	2.6	1.6	2.0	1.7	3.1	2.1
S.E.	0.8	0.5	0.6	0.5	1.0	0.7
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 11

WEEK	FEMALE GROUP:										UNTREATED					
	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11069		18.		20.		22.		26.		26.		24.		25.		26.
11082		20.		26.		25.		28.		26.		25.		26.		24.
11088		19.		20.		24.		26.		26.		28.		27.		26.
11089		21.		23.		28.		30.		27.		27.		29.		27.
11090		17.		22.		25.		25.		29.		26.		24.		25.
11091		25.		22.		25.		25.		28.		27.		27.		25.
11092		21.		26.		23.		24.		23.		24.		25.		26.
11093		22.		25.		28.		31.		30.		28.		29.		25.
11098		19.		22.		25.		26.		27.		27.		26.		25.
11115		20.		24.		25.		29.		26.		26.		25.		26.
MEAN		20.		23.		25.		27.		27.		26.		26.		26.
S.D.		2.3		2.2		1.9		2.4		1.9		1.5		1.7		0.8
S.E.		0.7		0.7		0.6		0.7		0.6		0.5		0.5		0.3
N		10		10		10		10		10		10		10		10

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 12

FEMALE GROUP: 0 MG/KG/DAY																
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7
ANIMAL																
11114	19.		22.		24.		27.		26.		24.		25.		26.	
11070	19.		25.		25.		32.		33.		34.		29.		33.	
11074	21.		30.		30.		32.		30.		32.		31.		28.	
11079	19.		24.		23.		28.		29.		26.		27.		24.	
11084	21.		43.		27.		30.		32.		28.		26.		30.	
11087	19.		26.		26.		30.		29.		31.		28.		27.	
11099	22.		24.		31.		31.		31.		33.		30.		31.	
11110	21.		23.		25.		27.		28.		27.		27.		25.	
11111	19.		24.		25.		26.		26.		30.		25.		26.	
11116	23.		26.		29.		33.		30.		36.		29.		29.	
MEAN	20.		27.		27.		30.		29.		30.		28.		28.	
S.D.	1.5		6.1		2.7		2.5		2.3		3.8		2.1		2.8	
S.E.	0.5		1.9		0.8		0.8		0.7		1.2		0.7		0.9	
N	10		10		10		10		10		10		10		10	

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 13

FEMALE GROUP: 100 MG/KG/DAY															
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO 7
ANIMAL															
11071	19.		32.		28.		31.		25.		27.		26.		28.
11072	18.		22.		23.		25.		28.		25.		26.		23.
11073	18.		20.		25.		26.		29.		23.		25.		22.
11076	22.		26.		33.		32.		28.		28.		28.		28.
11078	19.		23.		24.		26.		24.		22.		22.		23.
11083	21.		24.		29.		31.		27.		29.		29.		31.
11086	20.		25.		34.		29.		35.		27.		28.		25.
11101	19.		25.		29.		31.		27.		29.		29.		27.
11102	19.		27.		26.		32.		27.		29.		28.		27.
11113	18.		22.		23.		26.		25.		26.		24.		24.
MEAN	19.		25.		27.		29.		28.		27.		27.		26.
S.D.	1.3		3.3		3.9		2.8		3.1		2.5		2.3		2.9
S.E.	0.4		1.1		1.2		0.9		1.0		0.8		0.7		0.9
N	10		10		10		10		10		10		10		10

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 14

FEMALE GROUP: 300 MG/KG/DAY															
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO 7
ANIMAL															
11066	20.		27.		28.		38.		32.		30.		31.		27.
11075	24.		24.		38.		30.		34.		30.		30.		29.
11077	21.		25.		28.		28.		28.		27.		29.		26.
11080	19.		25.		24.		26.		27.		25.		25.		24.
11085	22.		25.		29.		32.		32.		33.		33.		32.
11094	20.		24.		28.		35.		30.		29.		28.		27.
11103	19.		23.		27.		29.		33.		29.		29.		27.
11105	20.		26.		26.		29.		33.		29.		28.		26.
11106	20.		27.		32.		35.		32.		33.		32.		30.
11119	18.		23.		25.		27.		28.		26.		27.		26.
MEAN	20.		25.		29.		31.		31.		29.		29.		27.
S.D.	1.7		1.4		4.0		4.0		2.5		2.6		2.4		2.3
S.E.	0.5		0.5		1.3		1.3		0.8		0.8		0.8		0.7
N	10		10		10		10		10		10		10		10

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 15

FEMALE GROUP: 600 MG/KG/DAY															
WEEK	-2 TO	-1	0 TO	1	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO 7
ANIMAL															
11062	19.		22.			24.		26.		27.		30.		26.	27.
11065	19.		23.			28.		30.		29.		28.		30.	26.
11096	22.		23.			26.		31.		29.		30.		30.	27.
11081	19.		31.			28.		30.		29.		16.		27.	26.
11095	21.		24.			27.		29.		29.		29.		28.	27.
11097	21.		21.			27.		28.		29.		31.		32.	29.
11104	21.		27.			29.		28.		27.		27.		28.	26.
11112	21.		25.			28.		29.		33.		29.		27.	29.
11117	19.		24.			26.		31.		29.		30.		28.	26.
11118	19.		24.			25.		26.		26.		24.		24.	24.
MEAN	20.		24.			27.		29.		29.		27.		28.	27.
S.D.	1.2		2.8			1.5		1.8		1.9		4.5		2.3	1.5
S.E.	0.4		0.9			0.5		0.6		0.6		1.4		0.7	0.5
N	10		10			10		10		10		10		10	10

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TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 16

WEEK	FEMALE GROUP:			UNTREATED		
	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11069	25.	25.	28.	32.	37.	27.
11082	26.	24.	25.	23.	25.	25.
11088	26.	27.	24.	26.	24.	29.
11089	29.	28.	27.	29.	32.	28.
11090	27.	25.	25.	26.	26.	28.
11091	27.	26.	29.	27.	30.	30.
11092	30.	29.	26.	27.	31.	30.
11093	28.	27.	29.	28.	26.	31.
11098	26.	25.	25.	29.	25.	35.
11115	25.	26.	25.	27.	26.	27.
MEAN	27.	26.	26.	27.	28.	29.
S.D.	1.7	1.5	1.8	2.4	4.2	2.7
S.E.	0.5	0.5	0.6	0.7	1.3	0.9
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 17

FEMALE GROUP: 0 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11114	25.	26.	25.	27.	24.	33.
11070	28.	30.	32.	29.	29.	28.
11074	32.	27.	27.	26.	33.	29.
11079	28.	26.	26.	30.	26.	35.
11084	29.	28.	30.	28.	32.	37.
11087	27.	27.	29.	28.	28.	31.
11099	31.	30.	30.	32.	29.	33.
11110	25.	24.	26.	25.	25.	27.
11111	24.	25.	25.	24.	24.	29.
11116	29.	29.	30.	29.	30.	32.
MEAN	28.	27.	28.	28.	28.	31.
S.D.	2.6	2.0	2.5	2.4	3.2	3.2
S.E.	0.8	0.6	0.8	0.8	1.0	1.0
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 18

FEMALE GROUP: 100 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11071	26.	26.	28.	25.	27.	26.
11072	26.	25.	22.	23.	22.	21.
11073	24.	24.	23.	27.	24.	22.
11076	31.	29.	25.	29.	30.	28.
11078	24.	23.	22.	22.	25.	22.
11083	30.	30.	29.	31.	29.	26.
11086	27.	25.	28.	27.	24.	25.
11101	31.	29.	30.	31.	27.	30.
11102	27.	28.	30.	28.	30.	29.
11113	25.	23.	27.	26.	2.	27.
MEAN	27.	26.	26.	27.	24.	26.
S.D.	2.7	2.6	3.2	3.0	8.2	3.1
S.E.	0.8	0.8	1.0	1.0	2.6	1.0
N	10	10	10	10	10	10

' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

PAGE 19

FEMALE GROUP: 300 MG/KG/DAY						
WEEK	7 TO 8	8 TO 9	9 TO 10	10 TO 11	11 TO 12	12 TO 12'
ANIMAL						
11066	NA	28.	28.	32.	32.	30.
11075	29.	30.	29.	30.	26.	30.
11077	28.	27.	29.	28.	30.	27.
11080	28.	25.	25.	26.	25.	23.
11085	30.	32.	29.	43.	29.	32.
11094	31.	28.	28.	30.	29.	29.
11103	28.	30.	31.	32.	29.	27.
11105	30.	27.	29.	37.	25.	28.
11106	38.	39.	37.	33.	32.	32.
11119	24.	26.	29.	27.	25.	30.
MEAN	30.	29.	29.	32.	28.	29.
S.D.	3.7	4.0	3.1	5.1	2.8	2.7
S.E.	1.2	1.3	1.0	1.6	0.9	0.9
N	9	10	10	10	10	10

NA = NOT APPLICABLE
' = SECOND WEEKLY INTERVAL

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A9
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL FOOD CONSUMPTION [G/ANIMAL/DAY]

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FEMALE GROUP: 600 MG/KG/DAY											
WEEK	7 TO	8	8 TO	9	9 TO	10	10 TO	11	11 TO	12	12 TO 12'
ANIMAL											
11062	27.		28.		24.		26.		27.		25.
11065	29.		27.		29.		27.		28.		26.
11096	29.		28.		29.		28.		28.		28.
11081	28.		28.		28.		28.		27.		28.
11095	27.		29.		29.		29.		30.		37.
11097	29.		28.		29.		29.		31.		35.
11104	26.		28.		28.		27.		27.		26.
11112	30.		27.		27.		25.		26.		28.
11117	28.		28.		28.		28.		26.		28.
11118	23.		24.		24.		25.		25.		26.
MEAN	28.		28.		28.		27.		28.		29.
S.D.	2.0		1.4		2.0		1.5		1.8		4.0
S.E.	0.6		0.4		0.6		0.5		0.6		1.3
N	10		10		10		10		10		10

' = SECOND WEEKLY INTERVAL

PBFTSv4.57
08/09/2012
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FINAL REPORT



Contents: Volume 4 of 4
Appendix K (continued)

Study Title: A 90-Day Repeat-Dose Dermal Toxicity Study Utilizing
Ultra-Low Sulfur Diesel Fuel in Sprague Dawley Rats

Laboratory Project ID: WIL-402025

Author: Angela S. Burke, PhD, DABT

Test Guideline: OPPTS Guideline 870.3250
40 CFR 798.2250
OECD Guideline 411

Study Completion Date: 9 August 2012

Performing Laboratory: WIL Research Laboratories, LLC
1407 George Road
Ashland, OH 44805-8946

Sponsor: American Petroleum Institute
1220 L Street, NW
Washington, DC 20005

Total Number of Pages: 1297

APPENDIX K

Individual Animal Data (continued)

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 1
WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP:	UNTREATED	MALES								
11011	8.77	9.49	16.1	49.1	51.7	17.0	32.8	1086.	1.9	179.9
11012	14.05	9.19	15.7	48.2	52.4	17.1	32.7	1064.	1.6	145.8
11013	10.59	8.59	15.5	46.7	54.3	18.1	33.3	1151.	1.7	145.9
11015	9.74	9.26	16.9	49.3	53.3	18.3	34.3	869.	2.0	188.3
11021	8.51	10.27	17.5	57.3	55.8	17.0	30.5	1446.	1.8	184.1
11022	7.91	8.11	14.3	43.3	53.4	17.6	33.0	1051.	1.9	156.0
11026	7.58	9.24	15.6	47.8	51.7	16.8	32.6	1030.	1.7	152.9
11040	9.96	8.56	14.9	47.0	54.9	17.4	31.7	1190.	2.2	184.6
11044	6.71	9.43	16.2	49.7	52.7	17.2	32.6	880.	1.6	146.4
11053	7.31	9.05	15.5	47.9	52.9	17.2	32.5	969.	1.8	165.0
MEAN	9.11	9.12	15.8	48.6	53.3	17.4	32.6	1074.	1.8	164.9
S.D.	2.134	0.598	0.92	3.55	1.34	0.49	0.99	167.1	0.19	17.70
S.E.	0.675	0.189	0.29	1.12	0.43	0.16	0.31	52.8	0.06	5.60
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 2
WEEK 12

ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP:	UNTREATED	MALES				
11011	27.5	69.2	1.7	0.4	0.5	0.7
11012	17.2	77.7	2.0	1.4	0.6	1.0
11013	11.1	85.1	2.0	0.7	0.3	0.9
11015	19.1	75.8	3.0	1.1	0.3	0.8
11021	7.5	89.7	1.8	0.2	0.5	0.4
11022	16.4	78.3	2.7	0.9	0.3	1.4
11026	8.4	85.4	2.6	1.6	0.4	1.6
11040	15.4	80.3	2.2	0.7	0.4	0.9
11044	20.5	74.3	2.7	1.3	0.6	0.6
11053	9.8	85.9	2.2	1.0	0.4	0.7
MEAN	15.3	80.2	2.3	0.9	0.4	0.9
S.D.	6.25	6.31	0.44	0.44	0.12	0.36
S.E.	1.98	2.00	0.14	0.14	0.04	0.11
N	10	10	10	10	10	10

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 3
WEEK 12

ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP:	UNTREATED	MALES						
11011	2.41	6.08	0.15	0.03	0.04	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11012	2.42	10.92	0.29	0.20	0.08	0.14	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11013	1.17	9.01	0.21	0.07	0.03	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11015	1.86	7.38	0.29	0.11	0.03	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11021	0.64	7.64	0.15	0.02	0.04	0.03	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11022	1.30	6.19	0.21	0.07	0.03	0.11	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11026	0.64	6.48	0.20	0.12	0.03	0.12	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11040	1.53	8.00	0.22	0.07	0.04	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11044	1.37	4.98	0.18	0.09	0.04	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11053	0.72	6.28	0.16	0.07	0.03	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.41	7.30	0.21	0.09	0.04	0.08		
S.D.	0.664	1.715	0.051	0.051	0.015	0.036		
S.E.	0.210	0.542	0.016	0.016	0.005	0.012		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 4
WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP:	UNTREATED	MALES		
11011	17.9	19.4	11.9	2.08
11012	18.6	20.0	11.6	2.09
11013	17.1	18.4	11.3	2.09
11015	CLT	CLT	11.0	2.07
11021	17.0	19.4	12.0	1.90
11022	17.2	21.6	12.3	2.34
11026	18.1	24.9	12.4	2.26
11040	17.2	20.0	12.8	2.36
11044	18.0	20.9	11.0	2.02
11053	17.6	21.6	11.5	2.01
MEAN	17.6	20.7	11.8	2.12
S.D.	0.55	1.90	0.61	0.150
S.E.	0.18	0.63	0.19	0.047
N	9	9	10	10
CLT = CLOTTED				
g/dL = GRAMS/DECILITER				

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 5
WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 0 MG/KG/DAY	MALES									
11001	12.71	8.92	15.7	45.9	51.5	17.6	34.3	1216.	1.5	135.1
11009	10.76	9.52	16.5	50.8	53.3	17.3	32.4	827.	1.4	129.1
11010	9.51	8.58	15.1	43.4	50.6	17.6	34.8	962.	1.7	145.9
11014	9.74	9.38	16.4	50.1	53.4	17.5	32.7	1267.	2.0	186.0
11029	13.01	9.64	17.3	54.2	56.2	18.0	32.0	1190.	2.2	208.5
11033	8.36	8.70	14.8	45.5	52.3	17.0	32.5	1110.	1.6	136.5
11037	11.22	8.92	15.0	46.2	51.8	16.8	32.4	1247.	2.2	193.0
11046	7.11	8.80	15.2	45.9	52.1	17.3	33.2	1044.	1.5	130.6
11052	10.19	9.84	15.7	47.8	48.5	16.0	32.9	935.	1.1	106.5
11057	11.97	8.73	14.3	42.5	48.7	16.3	33.6	1176.	1.6	141.7
MEAN	10.46	9.10	15.6	47.2	51.8	17.1	33.1	1097.	1.7	151.3
S.D.	1.875	0.449	0.91	3.57	2.27	0.62	0.90	149.4	0.36	32.91
S.E.	0.593	0.142	0.29	1.13	0.72	0.20	0.29	47.2	0.11	10.41
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 0 MG/KG/DAY		MALES				
11001	19.5	76.8	1.6	0.8	0.4	0.8
11009	27.9	68.6	2.0	0.4	0.3	0.7
11010	16.2	78.1	2.9	1.3	0.5	1.0
11014	29.5	67.2	1.8	0.6	0.4	0.4
11029	29.3	65.2	2.9	0.4	0.6	1.5
11033	30.8	64.2	2.6	0.8	0.5	1.1
11037	30.0	63.4	3.7	1.6	0.4	0.8
11046	25.3	71.5	1.7	0.7	0.4	0.4
11052	26.1	68.5	3.0	1.3	0.3	0.8
11057	32.1	63.0	2.6	0.7	0.5	1.2
MEAN	26.7	68.7	2.5	0.9	0.4	0.9
S.D.	5.13	5.35	0.68	0.41	0.09	0.34
S.E.	1.62	1.69	0.22	0.13	0.03	0.11
N	10	10	10	10	10	10

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 7
WEEK 12

ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 0 MG/KG/DAY		MALES						
11001	2.47	9.77	0.20	0.11	0.06	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11009	3.00	7.38	0.22	0.04	0.03	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11010	1.54	7.43	0.27	0.13	0.05	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11014	2.88	6.55	0.18	0.06	0.04	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11029	3.82	8.49	0.38	0.06	0.08	0.19	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11033	2.57	5.37	0.22	0.06	0.04	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11037	3.37	7.12	0.42	0.18	0.05	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11046	1.80	5.09	0.12	0.05	0.03	0.03	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11052	2.66	6.98	0.31	0.13	0.04	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11057	3.84	7.54	0.31	0.09	0.05	0.14	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	2.80	7.17	0.26	0.09	0.05	0.09		
S.D.	0.765	1.364	0.093	0.045	0.015	0.046		
S.E.	0.242	0.431	0.029	0.014	0.005	0.014		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 8
WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 0 MG/KG/DAY		MALES		
11001	17.9	21.6	12.1	2.28
11009	18.3	20.4	12.0	1.98
11010	18.4	22.6	11.8	2.24
11014	17.6	22.6	11.5	2.08
11029	17.1	22.6	11.8	2.09
11033	17.9	21.8	11.6	2.23
11037	18.3	23.4	12.3	2.27
11046	17.7	23.3	11.6	2.14
11052	18.3	20.6	11.5	2.16
11057	18.1	21.1	12.3	2.31
MEAN	18.0	22.0	11.9	2.18
S.D.	0.41	1.07	0.31	0.106
S.E.	0.13	0.34	0.10	0.034
N	10	10	10	10

g/dL = GRAMS/DECILITER

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 100 MG/KG/DAY MALES										
11006	8.01	8.99	15.6	46.6	51.8	17.3	33.4	1296.	1.5	136.5
11019	9.82	8.82	15.4	46.7	53.0	17.5	33.0	1138.	1.4	119.9
11020	7.99	9.35	16.3	49.8	53.3	17.4	32.7	1305.	2.2	201.3
11025	8.49	9.83	17.0	51.4	52.3	17.3	33.1	1103.	1.7	162.4
11028	17.07	10.48	18.5	59.8	57.0	17.6	30.9	1121.	2.3	237.2
11045	6.32	8.60	14.0	43.3	50.3	16.3	32.4	1128.	1.7	144.8
11047	10.88	8.79	14.9	45.7	51.9	17.0	32.7	1131.	2.0	178.6
11048	9.98	8.65	14.6	44.2	51.0	16.9	33.1	1144.	2.0	177.1
11050	9.67	8.67	14.8	43.9	50.6	17.1	33.7	938.	2.0	171.8
11054	12.55	9.05	15.6	48.2	53.3	17.3	32.4	1001.	2.5	225.0
MEAN	10.08	9.12	15.7	48.0	52.5	17.2	32.7	1131.	1.9	175.5
S.D.	3.003	0.607	1.31	4.90	1.92	0.37	0.77	111.9	0.35	37.53
S.E.	0.950	0.192	0.42	1.55	0.61	0.12	0.24	35.4	0.11	11.87
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

PAGE 10
WEEK 12

ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 100 MG/KG/DAY MALES						
11006	25.3	69.4	2.3	1.6	0.5	0.8
11019	17.6	78.6	1.6	1.4	0.2	0.6
11020	27.5	67.6	1.8	1.2	1.0	0.9
11025	15.8	80.4	1.8	0.6	0.6	0.8
11028	14.9	80.8	1.8	0.5	0.9	1.1
11045	22.4	73.4	2.5	0.7	0.4	0.6
11047	23.0	72.0	2.5	0.7	0.4	1.4
11048	34.5	61.3	2.0	0.9	0.3	1.0
11050	32.2	62.5	3.4	0.9	0.5	0.6
11054	14.8	82.2	1.5	0.5	0.4	0.6
MEAN	22.8	72.8	2.1	0.9	0.5	0.8
S.D.	7.12	7.61	0.57	0.38	0.25	0.27
S.E.	2.25	2.41	0.18	0.12	0.08	0.08
N	10	10	10	10	10	10

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 100 MG/KG/DAY		MALES						
11006	2.03	5.56	0.19	0.13	0.04	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11019	1.73	7.72	0.16	0.14	0.02	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11020	2.20	5.40	0.14	0.09	0.08	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11025	1.34	6.83	0.15	0.05	0.05	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11028	2.55	13.80	0.31	0.08	0.15	0.18	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11045	1.42	4.64	0.16	0.04	0.02	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11047	2.50	7.84	0.28	0.08	0.04	0.15	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11048	3.44	6.12	0.20	0.09	0.03	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11050	3.11	6.05	0.32	0.08	0.05	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11054	1.86	10.31	0.18	0.06	0.06	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	2.22	7.43	0.21	0.08	0.05	0.09		
S.D.	0.690	2.759	0.068	0.032	0.038	0.045		
S.E.	0.218	0.872	0.022	0.010	0.012	0.014		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
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INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 100 MG/KG/DAY MALES				
11006	18.5	24.0	12.0	2.16
11019	18.9	21.0	11.5	2.14
11020	18.3	14.8	12.4	2.19
11025	18.0	22.7	11.5	1.92
11028	17.7	21.8	11.7	1.90
11045	18.2	20.7	11.5	2.13
11047	17.0	20.7	11.7	2.27
11048	17.6	19.3	11.7	2.21
11050	18.3	18.8	11.2	2.16
11054	16.2	20.6	11.5	2.10
MEAN	17.9	20.4	11.7	2.12
S.D.	0.79	2.49	0.33	0.119
S.E.	0.25	0.79	0.10	0.038
N	10	10	10	10

g/dL = GRAMS/DECILITER

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 300 MG/KG/DAY MALES										
11003	14.60	9.25	15.4	47.2	51.0	16.7	32.7	918.	1.9	177.0
11005	7.00	8.65	14.9	44.8	51.8	17.3	33.3	969.	2.1	184.8
11007	10.37	8.65	15.4	45.8	52.9	17.8	33.6	1389.	2.2	188.7
11008	11.89	9.40	16.5	50.1	53.4	17.5	32.8	1076.	1.4	134.0
11017	8.64	9.59	16.8	51.0	53.2	17.5	32.9	1267.	0.9	85.4
11018	8.42	9.60	16.3	52.0	54.2	17.0	31.4	1195.	2.3	220.4
11027	11.56	8.66	14.7	45.1	52.0	17.0	32.6	1157.	1.6	135.2
11031	14.11	9.58	15.2	47.7	49.8	15.9	31.9	973.	1.5	143.0
11038	12.03	8.77	14.6	44.2	50.4	16.7	33.1	997.	1.2	107.1
11043	11.49	9.04	15.1	45.9	50.8	16.8	33.0	949.	1.5	131.4
MEAN	11.01	9.12	15.5	47.4	52.0	17.0	32.7	1089.	1.7	150.7
S.D.	2.442	0.414	0.78	2.76	1.45	0.54	0.65	157.4	0.46	41.19
S.E.	0.772	0.131	0.25	0.87	0.46	0.17	0.21	49.8	0.14	13.03
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 300 MG/KG/DAY						
		MALES				
11003	21.0	72.0	3.7	1.7	0.5	1.1
11005	13.2	82.7	2.2	0.9	0.2	0.7
11007	27.6	68.7	1.9	1.1	0.3	0.5
11008	15.0	80.5	2.5	0.8	0.4	0.7
11017	12.6	84.0	2.1	0.4	0.4	0.6
11018	20.1	74.2	2.1	1.3	0.8	1.5
11027	21.7	74.5	2.0	0.7	0.4	0.7
11031	33.7	58.6	4.6	0.8	0.5	1.8
11038	20.4	73.9	2.9	0.8	0.5	1.5
11043	29.8	62.9	4.3	0.9	0.5	1.6
MEAN	21.5	73.2	2.8	0.9	0.5	1.1
S.D.	7.06	8.19	1.01	0.36	0.16	0.49
S.E.	2.23	2.59	0.32	0.11	0.05	0.15
N	10	10	10	10	10	10

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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 300 MG/KG/DAY		MALES						
11003	3.06	10.52	0.54	0.25	0.07	0.16	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11005	0.93	5.79	0.15	0.06	0.02	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11007	2.86	7.13	0.19	0.11	0.03	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11008	1.79	9.57	0.30	0.10	0.05	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11017	1.09	7.26	0.18	0.03	0.03	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11018	1.69	6.25	0.18	0.11	0.06	0.12	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11027	2.51	8.61	0.23	0.08	0.05	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11031	4.76	8.27	0.65	0.11	0.07	0.26	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11038	2.45	8.89	0.35	0.10	0.06	0.17	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11043	3.42	7.23	0.50	0.10	0.06	0.19	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	2.46	7.95	0.33	0.11	0.05	0.12		
S.D.	1.154	1.486	0.178	0.057	0.018	0.072		
S.E.	0.365	0.470	0.056	0.018	0.006	0.023		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 300 MG/KG/DAY MALES				
11003	17.7	19.0	11.9	2.26
11005	17.7	21.0	11.6	2.13
11007	17.1	20.9	12.1	2.33
11008	17.0	20.3	12.2	2.14
11017	17.5	22.6	11.1	2.14
11018	18.4	20.6	11.7	2.06
11027	18.4	21.3	11.8	2.29
11031	17.4	23.5	12.7	2.29
11038	17.2	21.0	11.6	2.15
11043	17.5	18.2	12.1	2.22
MEAN	17.6	20.8	11.9	2.20
S.D.	0.49	1.53	0.43	0.089
S.E.	0.15	0.48	0.14	0.028
N	10	10	10	10

g/dL = GRAMS/DECILITER

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 600 MG/KG/DAY MALES										
11024	10.81	9.19	16.0	49.3	53.6	17.4	32.5	1310.	1.9	172.6
11030	8.94	9.09	14.8	45.7	50.3	16.2	32.3	1212.	1.8	164.4
11034	10.02	8.66	15.2	46.8	54.1	17.5	32.4	1131.	2.1	181.6
11035	6.40	9.37	16.7	51.9	55.4	17.8	32.1	936.	2.6	248.0
11004	11.41	9.28	16.3	49.3	53.1	17.6	33.1	1099.	1.9	179.7
11042	10.54	9.26	16.3	49.7	53.7	17.6	32.7	1045.	1.6	149.9
11049	7.65	8.89	14.9	45.8	51.5	16.8	32.6	1028.	1.8	159.4
11058	11.22	8.52	14.8	44.8	52.6	17.3	32.9	1099.	1.5	130.4
11059	11.45	8.45	14.9	44.8	52.9	17.7	33.4	729.	1.9	161.2
11060	12.33	9.34	15.5	46.1	49.3	16.6	33.6	962.	0.9	85.7
MEAN	10.08	9.01	15.5	47.4	52.7	17.3	32.8	1055.	1.8	163.3
S.D.	1.871	0.350	0.73	2.44	1.83	0.53	0.49	159.6	0.43	41.05
S.E.	0.592	0.111	0.23	0.77	0.58	0.17	0.15	50.5	0.14	12.98
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 600 MG/KG/DAY		MALES				
11024	22.1	74.3	2.1	0.4	0.4	0.6
11030	20.6	74.0	3.4	0.6	0.4	1.1
11034	26.2	69.9	1.9	1.0	0.4	0.5
11035	23.2	74.6	1.4	0.3	0.3	0.2
11004	16.2	79.5	2.1	0.6	0.6	1.0
11042	21.3	74.4	2.2	0.6	0.6	0.9
11049	22.3	72.4	2.7	1.7	0.5	0.5
11058	17.1	77.4	3.9	0.7	0.5	0.6
11059	12.9	83.0	2.1	0.6	0.5	0.9
11060	15.1	78.8	2.6	1.2	0.5	1.7
MEAN	19.7	75.8	2.4	0.8	0.5	0.8
S.D.	4.17	3.83	0.74	0.42	0.09	0.42
S.E.	1.32	1.21	0.23	0.13	0.03	0.13
N	10	10	10	10	10	10

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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 600 MG/KG/DAY		MALES						
11024	2.39	8.04	0.23	0.05	0.04	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11030	1.84	6.61	0.31	0.05	0.03	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11034	2.63	7.01	0.19	0.10	0.04	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11035	1.48	4.77	0.09	0.02	0.02	0.02	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11004	1.85	9.07	0.24	0.07	0.06	0.11	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11042	2.25	7.85	0.23	0.07	0.06	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11049	1.71	5.54	0.21	0.13	0.04	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11058	1.91	8.69	0.43	0.07	0.05	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11059	1.47	9.51	0.24	0.07	0.06	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11060	1.86	9.71	0.33	0.15	0.06	0.21	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.94	7.68	0.25	0.08	0.05	0.08		
S.D.	0.378	1.674	0.091	0.039	0.014	0.053		
S.E.	0.120	0.529	0.029	0.012	0.005	0.017		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 600 MG/KG/DAY MALES				
11024	17.6	23.7	12.4	2.21
11030	18.1	20.2	12.3	2.19
11034	17.5	19.4	12.2	2.09
11035	18.4	22.9	12.3	2.06
11004	16.7	19.4	11.8	2.39
11042	18.3	20.6	12.0	2.12
11049	17.0	23.7	12.0	2.11
11058	17.1	20.4	11.6	2.11
11059	17.5	17.0	11.7	2.29
11060	18.2	20.9	11.6	2.29
MEAN	17.6	20.8	12.0	2.19
S.D.	0.59	2.11	0.30	0.108
S.E.	0.19	0.67	0.10	0.034
N	10	10	10	10

g/dL = GRAMS/DECILITER

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TABLE A10
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INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP:	UNTREATED	FEMALES								
11069	7.89	9.73	17.1	50.8	52.2	17.6	33.7	889.	1.5	144.2
11082	5.15	8.66	15.7	47.7	55.0	18.1	32.9	1275.	2.2	189.6
11088	8.20	8.93	16.7	49.6	55.5	18.6	33.6	984.	1.8	163.5
11089	9.54	8.56	15.3	46.1	53.8	17.9	33.3	1162.	2.1	179.3
11090	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT
11091	12.83	8.92	16.2	50.3	56.4	18.2	32.2	1017.	1.5	132.6
11092	7.94	8.46	14.9	43.6	51.6	17.6	34.1	986.	1.8	155.7
11093	9.15	8.51	14.8	44.9	52.7	17.4	32.9	1053.	1.5	128.9
11098	6.86	8.60	14.8	45.1	52.5	17.2	32.7	1184.	1.5	130.6
11115	6.17	8.42	15.5	46.3	54.9	18.4	33.4	1242.	1.4	120.8
MEAN	8.19	8.75	15.7	47.2	53.8	17.9	33.2	1088.	1.7	149.5
S.D.	2.223	0.409	0.84	2.58	1.68	0.47	0.58	132.5	0.29	24.11
S.E.	0.741	0.136	0.28	0.86	0.56	0.16	0.19	44.2	0.10	8.04
N	9	9	9	9	9	9	9	9	9	9

CLT = CLOTTED

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

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ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP:	UNTREATED	FEMALES				
11069	19.8	74.6	2.2	1.5	1.0	1.0
11082	12.8	79.8	4.3	1.8	0.5	0.9
11088	13.6	82.7	1.1	1.4	0.6	0.7
11089	17.7	79.0	1.6	0.7	0.3	0.7
11090	CLT	CLT	CLT	CLT	CLT	CLT
11091	13.0	81.0	3.1	0.9	0.7	1.3
11092	8.9	87.9	1.2	0.9	0.2	0.9
11093	23.6	71.7	2.3	1.3	0.5	0.6
11098	17.7	78.2	2.0	0.8	0.2	1.1
11115	16.1	78.9	1.9	1.4	0.4	1.3
MEAN	15.9	79.3	2.2	1.2	0.5	0.9
S.D.	4.38	4.61	1.00	0.38	0.26	0.26
S.E.	1.46	1.54	0.33	0.13	0.09	0.09
N	9	9	9	9	9	9

CLT = CLOTTED

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP:	UNTREATED	FEMALES						
11069	1.56	5.88	0.18	0.12	0.08	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11082	0.66	4.11	0.22	0.09	0.02	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11088	1.11	6.78	0.09	0.11	0.05	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11089	1.69	7.53	0.15	0.07	0.03	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11090	CLT	CLT	CLT	CLT	CLT	CLT	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11091	1.67	10.40	0.40	0.12	0.09	0.16	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11092	0.71	6.98	0.10	0.07	0.01	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11093	2.16	6.56	0.21	0.12	0.04	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11098	1.22	5.37	0.13	0.06	0.02	0.07	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11115	0.99	4.87	0.12	0.09	0.03	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.31	6.50	0.18	0.09	0.04	0.08		
S.D.	0.499	1.824	0.095	0.024	0.028	0.033		
S.E.	0.166	0.608	0.032	0.008	0.009	0.011		
N	9	9	9	9	9	9		
CLT = CLOTTED								
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP:	UNTREATED	FEMALES		
11069	18.2	15.1	11.3	1.99
11082	17.1	19.1	11.1	1.95
11088	17.8	16.6	11.4	2.04
11089	17.8	18.4	11.2	2.07
11090	CLT	CLT	CLT	CLT
11091	17.3	22.4	11.4	1.87
11092	17.8	17.9	10.7	1.84
11093	16.6	16.2	12.5	2.17
11098	17.4	18.0	10.9	1.87
11115	17.3	17.1	10.5	1.96
MEAN	17.5	17.9	11.2	1.97
S.D.	0.48	2.09	0.57	0.108
S.E.	0.16	0.70	0.19	0.036
N	9	9	9	9
CLT = CLOTTED				
g/dL = GRAMS/DECILITER				

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 0 MG/KG/DAY		FEMALES								
11114	8.75	9.37	17.7	51.8	55.3	18.9	34.1	1328.	1.3	123.7
11070	10.57	8.83	15.4	45.4	51.4	17.4	33.9	1245.	1.6	140.6
11074	5.26	8.28	15.5	46.4	56.1	18.7	33.3	994.	2.1	172.4
11079	7.23	8.46	15.6	46.2	54.6	18.4	33.8	1379.	1.6	133.2
11084	7.30	9.02	16.4	49.7	55.1	18.2	33.0	1236.	1.8	166.8
11087	7.64	8.51	15.4	44.1	51.9	18.1	35.0	1001.	1.6	134.0
11099	6.21	7.80	14.3	44.2	56.7	18.3	32.3	1165.	1.9	145.5
11110	9.94	8.91	16.6	50.3	56.4	18.6	33.0	1122.	1.3	112.3
11111	7.33	8.87	16.5	49.2	55.5	18.6	33.5	1107.	1.2	110.3
11116	7.71	8.55	15.4	45.8	53.5	18.1	33.7	1165.	1.4	118.8
MEAN	7.79	8.66	15.9	47.3	54.7	18.3	33.6	1174.	1.6	135.8
S.D.	1.597	0.438	0.94	2.72	1.83	0.42	0.73	126.6	0.29	21.25
S.E.	0.505	0.139	0.30	0.86	0.58	0.13	0.23	40.0	0.09	6.72
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER										

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 0 MG/KG/DAY	FEMALES					
11114	18.4	78.2	1.3	0.8	0.6	0.6
11070	22.9	72.1	3.0	1.1	0.3	0.6
11074	21.0	74.0	2.7	1.2	0.4	0.6
11079	27.0	66.8	2.7	1.9	0.4	1.1
11084	17.9	79.1	1.3	0.8	0.4	0.5
11087	15.9	80.6	1.7	1.0	0.3	0.5
11099	21.4	73.3	2.2	1.4	0.3	1.3
11110	10.6	85.3	1.4	1.6	0.6	0.6
11111	18.3	75.2	3.2	1.9	0.6	0.7
11116	21.5	70.8	4.2	1.1	0.4	2.0
MEAN	19.5	75.5	2.4	1.3	0.4	0.9
S.D.	4.41	5.36	0.96	0.41	0.13	0.48
S.E.	1.39	1.70	0.30	0.13	0.04	0.15
N	10	10	10	10	10	10

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 0 MG/KG/DAY		FEMALES						
11114	1.61	6.84	0.11	0.07	0.06	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11070	2.42	7.62	0.32	0.12	0.03	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11074	1.11	3.90	0.14	0.07	0.02	0.03	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11079	1.95	4.83	0.20	0.14	0.03	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11084	1.31	5.78	0.10	0.05	0.03	0.03	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11087	1.21	6.16	0.13	0.08	0.02	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11099	1.33	4.56	0.14	0.09	0.02	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11110	1.05	8.48	0.13	0.16	0.06	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11111	1.34	5.51	0.23	0.14	0.05	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11116	1.66	5.46	0.32	0.09	0.03	0.16	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.50	5.91	0.18	0.10	0.04	0.06		
S.D.	0.424	1.409	0.083	0.037	0.016	0.038		
S.E.	0.134	0.446	0.026	0.012	0.005	0.012		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 0 MG/KG/DAY		FEMALES		
11114	17.8	16.9	10.3	1.82
11070	17.3	17.3	11.6	2.00
11074	17.5	15.7	11.4	2.06
11079	16.4	20.2	11.0	1.92
11084	16.3	19.5	10.7	1.84
11087	16.8	15.2	10.8	2.08
11099	17.0	19.7	10.4	1.92
11110	17.1	18.6	10.5	1.84
11111	17.8	16.7	10.5	1.93
11116	16.3	17.6	11.0	2.11
MEAN	17.0	17.7	10.8	1.95
S.D.	0.58	1.71	0.43	0.106
S.E.	0.18	0.54	0.14	0.033
N	10	10	10	10

g/dL = GRAMS/DECILITER

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 100 MG/KG/DAY FEMALES										
11071	13.27	8.23	14.8	43.1	52.4	18.0	34.4	1250.	1.4	115.8
11072	8.93	8.91	16.6	46.9	52.6	18.6	35.4	966.	1.4	128.3
11073	11.35	8.11	14.7	43.3	53.3	18.1	34.0	1140.	2.1	170.5
11076	8.74	9.27	17.0	52.0	56.1	18.3	32.6	1269.	2.0	186.9
11078	9.96	8.37	15.6	46.7	55.8	18.6	33.4	816.	1.6	135.1
11083	4.72	8.51	15.8	47.8	56.2	18.6	33.1	1161.	2.1	180.9
11086	8.25	8.82	16.0	49.5	56.1	18.2	32.3	1153.	1.5	132.7
11101	10.21	8.94	15.8	48.6	54.4	17.7	32.5	1188.	1.7	153.1
11102	13.29	8.53	15.0	45.8	53.7	17.6	32.8	1059.	1.4	117.5
11113	12.41	8.70	15.7	47.3	54.4	18.1	33.3	915.	1.0	84.9
MEAN	10.11	8.64	15.7	47.1	54.5	18.2	33.4	1092.	1.6	140.6
S.D.	2.640	0.357	0.74	2.68	1.48	0.36	0.97	149.4	0.36	32.17
S.E.	0.835	0.113	0.23	0.85	0.47	0.11	0.31	47.2	0.11	10.17
N	10	10	10	10	10	10	10	10	10	10

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

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INDIVIDUAL HEMATOLOGY VALUES

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ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 100 MG/KG/DAY FEMALES						
11071	20.0	76.1	2.1	0.8	0.4	0.7
11072	20.7	74.8	2.2	0.7	0.6	0.9
11073	18.8	76.8	2.6	0.8	0.4	0.7
11076	14.5	81.4	1.9	0.9	0.6	0.6
11078	26.1	67.4	2.7	3.0	0.4	0.4
11083	12.5	83.1	2.1	1.3	0.3	0.8
11086	19.9	77.2	0.9	0.9	0.4	0.7
11101	23.3	72.1	2.1	0.4	0.5	1.5
11102	17.8	78.6	1.7	0.3	0.4	1.2
11113	13.6	81.4	2.4	1.5	0.5	0.5
MEAN	18.7	76.9	2.1	1.1	0.5	0.8
S.D.	4.29	4.72	0.51	0.77	0.10	0.33
S.E.	1.36	1.49	0.16	0.24	0.03	0.10
N	10	10	10	10	10	10

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 100 MG/KG/DAY		FEMALES						
11071	2.65	10.09	0.27	0.11	0.05	0.09	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11072	1.85	6.68	0.20	0.06	0.05	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11073	2.13	8.71	0.29	0.09	0.04	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11076	1.27	7.11	0.17	0.08	0.06	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11078	2.60	6.72	0.27	0.30	0.04	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11083	0.59	3.92	0.10	0.06	0.01	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11086	1.64	6.37	0.07	0.07	0.04	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11101	2.38	7.37	0.21	0.04	0.05	0.15	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11102	2.37	10.45	0.22	0.04	0.05	0.16	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11113	1.69	10.11	0.30	0.19	0.06	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.92	7.75	0.21	0.10	0.05	0.08		
S.D.	0.648	2.071	0.078	0.082	0.014	0.042		
S.E.	0.205	0.655	0.025	0.026	0.005	0.013		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 100 MG/KG/DAY		FEMALES		
11071	17.3	15.9	11.2	2.02
11072	QNS	QNS	11.0	1.98
11073	17.3	18.4	10.7	1.89
11076	16.9	17.2	10.9	1.85
11078	17.7	19.7	11.0	1.78
11083	17.4	17.7	10.7	1.96
11086	17.3	19.2	11.1	1.87
11101	17.0	20.9	10.9	1.88
11102	16.8	16.0	11.3	2.00
11113	16.6	17.5	11.0	1.96
MEAN	17.1	18.1	11.0	1.92
S.D.	0.34	1.67	0.19	0.077
S.E.	0.11	0.56	0.06	0.024
N	9	9	10	10
QNS = QUANTITY NOT SUFFICIENT				
g/dL = GRAMS/DECILITER				

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP:	300	MG/KG/DAY	FEMALES							
11066	13.83	8.74	16.7	50.4	57.6	19.1	33.1	1323.	2.3	197.6
11075	6.37	8.69	15.9	47.0	54.1	18.3	33.8	1173.	1.2	106.5
11077	7.01	8.38	16.3	49.0	58.5	19.4	33.2	1428.	2.3	192.3
11080	8.52	9.17	16.5	48.6	53.0	18.0	33.9	1301.	0.9	83.2
11085	10.90	10.27	18.7	59.5	57.9	18.2	31.4	1075.	2.1	211.7
11094	6.32	8.86	15.6	47.4	53.5	17.6	32.9	1199.	1.5	133.1
11103	7.00	8.16	14.7	45.0	55.2	18.0	32.7	1086.	1.9	156.4
11105	11.60	8.46	15.6	47.2	55.8	18.4	33.0	1115.	1.1	93.9
11106	13.28	8.18	15.0	45.1	55.1	18.3	33.2	990.	1.5	126.1
11119	9.43	8.67	14.9	45.0	51.9	17.2	33.2	1008.	1.3	116.9
MEAN	9.43	8.76	16.0	48.4	55.3	18.3	33.0	1170.	1.6	141.8
S.D.	2.842	0.615	1.17	4.29	2.21	0.64	0.69	143.7	0.51	45.56
S.E.	0.899	0.194	0.37	1.36	0.70	0.20	0.22	45.4	0.16	14.41
N	10	10	10	10	10	10	10	10	10	10
thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, q/dL = GRAMS/DECILITER										

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ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 300 MG/KG/DAY		FEMALES				
11066	13.5	82.2	1.9	0.6	0.7	1.0
11075	12.5	84.4	1.3	1.1	0.2	0.6
11077	20.1	76.6	2.0	0.4	0.5	0.3
11080	27.8	69.0	1.7	0.6	0.3	0.7
11085	14.8	81.5	1.8	0.6	0.8	0.5
11094	24.3	72.0	1.8	0.8	0.3	0.7
11103	29.5	65.6	2.7	1.0	0.3	0.8
11105	18.1	78.6	1.5	0.6	0.4	0.9
11106	11.2	84.5	1.7	0.9	0.4	1.3
11119	15.1	79.9	1.7	1.2	0.4	1.7
MEAN	18.7	77.4	1.8	0.8	0.4	0.9
S.D.	6.52	6.55	0.37	0.26	0.19	0.41
S.E.	2.06	2.07	0.12	0.08	0.06	0.13
N	10	10	10	10	10	10

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ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 300 MG/KG/DAY FEMALES								
11066	1.87	11.37	0.27	0.08	0.10	0.15	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11075	0.80	5.37	0.08	0.07	0.01	0.04	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11077	1.41	5.37	0.14	0.03	0.04	0.02	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11080	2.37	5.88	0.14	0.05	0.02	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11085	1.61	8.88	0.20	0.06	0.09	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11094	1.54	4.55	0.11	0.05	0.02	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11103	2.07	4.60	0.19	0.07	0.02	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11105	2.09	9.11	0.17	0.07	0.05	0.11	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11106	1.49	11.22	0.23	0.12	0.05	0.17	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11119	1.42	7.54	0.16	0.12	0.04	0.16	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.67	7.39	0.17	0.07	0.04	0.09		
S.D.	0.448	2.625	0.056	0.029	0.030	0.055		
S.E.	0.142	0.830	0.018	0.009	0.010	0.017		
N	10	10	10	10	10	10		
thous/uL = THOUSANDS/MICROLITER								

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ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 300 MG/KG/DAY		FEMALES		
11066	17.0	19.0	11.3	1.94
11075	17.5	16.8	11.3	1.98
11077	18.0	20.2	10.5	1.82
11080	17.3	20.3	10.9	1.87
11085	16.9	15.8	11.0	1.79
11094	17.9	20.8	11.1	2.07
11103	17.1	18.1	10.8	2.03
11105	17.6	12.6	10.8	1.85
11106	17.6	19.3	10.7	2.12
11119	16.1	19.9	11.4	2.00
MEAN	17.3	18.3	11.0	1.95
S.D.	0.56	2.56	0.29	0.112
S.E.	0.18	0.81	0.09	0.035
N	10	10	10	10

g/dL = GRAMS/DECILITER

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SPONSOR:AMERICAN PETROLEUM

TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	WBC	RBC	HGB	HCT	MCV	MCH	MCHC	PLATELET	RETIC	RETIC ABSOLUTE
	thous/uL	mil/uL	g/dL	%	fL	pg	g/dL	thous/uL	%	thous/uL
GROUP: 600 MG/KG/DAY FEMALES										
11062	9.83	8.70	16.3	48.8	56.1	18.7	33.4	1435.	1.5	131.8
11065	9.62	8.86	15.4	46.4	52.4	17.4	33.2	1192.	1.5	133.8
11096	5.73	8.31	15.4	45.9	55.2	18.5	33.6	1002.	1.6	130.9
11081	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT	CLT
11095	9.95	9.12	16.5	50.2	55.1	18.1	32.9	979.	1.5	140.4
11097	8.96	8.18	15.2	46.0	56.2	18.6	33.0	1171.	2.5	208.2
11104	11.27	8.52	16.2	48.7	57.2	19.0	33.2	1246.	1.7	148.9
11112	10.02	7.82	13.6	40.3	51.5	17.4	33.7	1210.	1.9	148.5
11117	8.99	8.32	14.8	42.6	51.1	17.7	34.7	1097.	1.2	96.0
11118	7.28	9.02	16.1	48.0	53.2	17.8	33.6	1170.	1.3	112.8
MEAN	9.07	8.54	15.5	46.3	54.2	18.1	33.5	1167.	1.6	139.0
S.D.	1.650	0.425	0.92	3.16	2.22	0.59	0.54	136.0	0.38	30.94
S.E.	0.550	0.142	0.31	1.05	0.74	0.20	0.18	45.3	0.13	10.31
N	9	9	9	9	9	9	9	9	9	9

CLT = CLOTTED

thous/uL = THOUSANDS/MICROLITER, mil/uL = MILLIONS/MICROLITER, fL = FEMTOLITERS, pg = PICOGRAMS, g/dL = GRAMS/DECILITER

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	NEU	LYMPH	MONO	EOS	BASO	LUC
	%	%	%	%	%	%
GROUP: 600 MG/KG/DAY FEMALES						
11062	34.9	61.0	2.5	0.8	0.3	0.5
11065	12.4	82.2	3.0	1.0	0.4	1.0
11096	27.1	69.1	2.2	0.8	0.3	0.6
11081	CLT	CLT	CLT	CLT	CLT	CLT
11095	9.6	86.8	2.2	0.6	0.4	0.5
11097	23.2	71.6	2.9	1.4	0.3	0.6
11104	14.9	81.1	1.6	0.7	0.7	1.0
11112	17.1	79.1	1.8	0.9	0.3	0.8
11117	14.5	81.7	1.7	1.1	0.3	0.7
11118	15.6	78.1	3.4	0.9	0.6	1.4
MEAN	18.8	76.7	2.4	0.9	0.4	0.8
S.D.	8.06	8.02	0.63	0.24	0.15	0.30
S.E.	2.69	2.67	0.21	0.08	0.05	0.10
N	9	9	9	9	9	9

CLT = CLOTTED

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	NEU ABSOLUTE	LYMPH ABSOLUTE	MONO ABSOLUTE	EOS ABSOLUTE	BASO ABSOLUTE	LUC ABSOLUTE	PLATELET ESTIMATE	RBC MORPHOLOGY
	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL	thous/uL		
GROUP: 600 MG/KG/DAY FEMALES								
11062	3.43	6.00	0.24	0.07	0.03	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11065	1.19	7.90	0.29	0.10	0.04	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11096	1.55	3.96	0.13	0.04	0.02	0.03	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11081	CLT	CLT	CLT	CLT	CLT	CLT	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11095	0.95	8.63	0.21	0.06	0.04	0.05	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11097	2.07	6.41	0.26	0.13	0.03	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11104	1.68	9.14	0.18	0.08	0.07	0.12	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11112	1.71	7.92	0.18	0.09	0.03	0.08	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11117	1.30	7.35	0.16	0.10	0.03	0.06	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
11118	1.14	5.69	0.25	0.06	0.04	0.10	PLATELET ESTIMATE AND MORPHOLOGY	NOT REVIEWED
MEAN	1.67	7.00	0.21	0.08	0.04	0.07		
S.D.	0.745	1.633	0.053	0.027	0.014	0.029		
S.E.	0.248	0.544	0.018	0.009	0.005	0.010		
N	9	9	9	9	9	9		
CLT = CLOTTED								
thous/uL = THOUSANDS/MICROLITER								

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TABLE A10
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL HEMATOLOGY VALUES

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WEEK 12

ANIMAL	PT	APTT	RDW	HDW
	seconds	seconds	%	g/dL
GROUP: 600 MG/KG/DAY FEMALES				
11062	18.1	16.0	10.8	1.85
11065	16.8	17.1	11.3	2.05
11096	17.8	15.3	11.5	2.02
11081	CLT	CLT	CLT	CLT
11095	15.7	18.0	11.1	1.88
11097	18.3	20.4	11.4	2.00
11104	17.5	20.2	11.1	1.86
11112	18.2	20.6	11.1	2.03
11117	17.4	20.0	11.2	2.19
11118	16.2	18.6	10.2	1.80
MEAN	17.3	18.5	11.1	1.96
S.D.	0.92	2.00	0.39	0.125
S.E.	0.31	0.67	0.13	0.042
N	9	9	9	9

CLT = CLOTTED

g/dL = GRAMS/DECILITER

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SPONSOR:AMERICAN PETROLEUM

TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

PAGE 1
WEEK 12

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP:	UNTREATED	MALES									
11011	3.9	6.6	2.7	1.44	0.06	16.1	0.3	101.	55.	95.	0.1
11012	4.2	6.7	2.6	1.62	0.08	14.4	0.3	88.	72.	111.	0.1
11013	3.9	6.4	2.5	1.57	0.04	13.1	0.3	68.	44.	96.	0.1
11015	3.6	5.6	2.0	1.85	0.03	13.8	0.2	97.	41.	98.	0.1
11021	4.9	QNS	QNS	QNS	0.06	QNS	1.8	86.	55.	97.	0.1
11022	3.5	5.5	2.1	1.67	0.00	14.3	0.2	58.	42.	94.	0.1
11026	4.0	6.3	2.2	1.79	0.05	14.7	0.2	71.	48.	88.	0.1
11040	3.7	6.1	2.4	1.58	0.01	17.7	0.3	95.	47.	95.	0.1
11044	3.9	6.5	2.6	1.52	0.06	14.6	0.3	90.	51.	117.	0.1
11053	3.8	5.8	2.0	1.92	0.05	13.0	0.2	71.	52.	97.	0.1
MEAN	3.9	6.2	2.3	1.66	0.04	14.6	0.4	83.	51.	99.	0.1
S.D.	0.39	0.44	0.27	0.160	0.025	1.48	0.49	14.5	9.0	8.6	0.00
S.E.	0.12	0.15	0.09	0.053	0.008	0.49	0.16	4.6	2.8	2.7	0.00
N	10	9	9	9	10	9	10	10	10	10	10

QNS = QUANTITY NOT SUFFICIENT

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP:	UNTREATED	MALES							
11011	135.	58.	12.2	102.	11.5	6.71	151.	12.	9.
11012	113.	42.	10.4	102.	9.0	3.83	150.	20.	27.
11013	130.	45.	10.9	103.	8.1	4.41	146.	16.	21.
11015	166.	28.	10.8	106.	7.8	4.67	144.	12.	8.
11021	QNS	QNS	14.9	103.	15.3	9.27	161.	75.	22.
11022	149.	55.	9.6	104.	6.7	4.69	145.	23.	8.
11026	126.	40.	12.1	104.	10.1	7.07	146.	19.	8.
11040	121.	40.	12.6	105.	10.8	7.13	151.	14.	15.
11044	133.	47.	11.0	103.	8.4	7.72	147.	19.	UR
11053	121.	42.	11.5	104.	8.1	4.94	151.	16.	9.
MEAN	133.	44.	11.6	104.	9.6	6.04	149.	23.	14.
S.D.	16.2	8.8	1.47	1.3	2.49	1.776	4.9	18.8	7.4
S.E.	5.4	2.9	0.46	0.4	0.79	0.562	1.6	5.9	2.5
N	9	9	10	10	10	10	10	10	9
QNS = QUANTITY NOT SUFFICIENT, UR = BELOW INSTRUMENT RANGE									
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER									

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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WEEK 12

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY	MALES										
11001	3.2	6.1	2.9	1.11	0.06	15.5	0.2	80.	46.	100.	0.4
11009	3.7	6.4	2.7	1.36	0.06	16.1	0.3	59.	60.	125.	0.3
11010	3.8	5.9	2.1	1.78	0.05	13.8	0.2	88.	44.	90.	0.1
11014	3.9	6.8	2.9	1.35	0.04	14.1	0.2	89.	58.	122.	0.1
11029	4.1	7.9	3.8	1.06	0.06	17.3	0.3	101.	51.	112.	0.1
11033	4.1	6.5	2.4	1.67	0.03	15.6	0.3	82.	60.	115.	0.1
11037	3.9	6.5	2.6	1.48	0.03	13.6	0.3	82.	48.	89.	0.1
11046	3.9	6.8	2.9	1.35	0.01	15.1	0.3	65.	45.	110.	0.6
11052	3.8	6.3	2.6	1.45	0.06	18.0	0.2	94.	74.	161.	0.1
11057	3.7	6.5	2.9	1.28	0.05	15.2	0.2	84.	56.	115.	0.1
MEAN	3.8	6.6	2.8	1.39	0.05	15.4	0.3	82.	54.	114.	0.2
S.D.	0.26	0.54	0.44	0.223	0.017	1.43	0.05	12.5	9.3	20.6	0.18
S.E.	0.08	0.17	0.14	0.070	0.005	0.45	0.02	4.0	2.9	6.5	0.06
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100 MG/KG/DAY		MALES									
11006	4.2	7.0	2.8	1.51	0.06	14.8	0.3	85.	65.	144.	0.1
11019	4.0	6.4	2.4	1.66	0.08	13.7	0.3	126.	67.	106.	0.2
11020	4.4	7.3	3.0	1.46	0.05	15.3	0.3	155.	56.	112.	0.1
11025	4.2	6.8	2.6	1.60	0.04	14.3	0.3	109.	47.	108.	0.1
11028	4.6	8.3	3.6	1.27	0.03	16.5	0.4	118.	62.	117.	0.1
11045	3.7	6.1	2.4	1.51	0.03	15.5	0.4	103.	56.	109.	0.1
11047	3.8	6.5	2.7	1.42	0.05	15.8	0.3	84.	59.	125.	0.1
11048	3.5	6.3	2.7	1.30	0.04	15.9	0.2	72.	35.	78.	0.5
11050	3.2	QNS	QNS	QNS	0.03	QNS	QNS	27.	44.	90.	0.1
11054	3.9	6.2	2.3	1.69	0.05	16.1	0.2	80.	49.	100.	0.1
MEAN	4.0	6.8	2.7	1.49	0.05	15.3	0.3	96.	54.	109.	0.2
S.D.	0.42	0.70	0.40	0.147	0.016	0.90	0.07	34.9	10.1	18.2	0.13
S.E.	0.13	0.23	0.13	0.049	0.005	0.30	0.02	11.0	3.2	5.7	0.04
N	10	9	9	9	10	9	9	10	10	10	10

QNS = QUANTITY NOT SUFFICIENT

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP: 100 MG/KG/DAY		MALES							
11006	110.	45.	10.6	104.	8.3	5.36	152.	19.	18.
11019	112.	34.	10.5	102.	8.3	4.49	148.	20.	23.
11020	167.	56.	12.7	99.	11.8	8.63	146.	17.	9.
11025	151.	29.	12.7	103.	10.6	7.83	149.	10.	8.
11028	108.	48.	15.9	104.	19.9	9.76	164.	16.	17.
11045	104.	23.	10.8	105.	7.4	4.07	148.	18.	17.
11047	94.	48.	10.2	103.	7.8	4.20	149.	18.	21.
11048	109.	34.	11.9	103.	8.2	5.12	145.	12.	5.
11050	QNS	QNS	11.2	109.	8.1	6.05	149.	10.	1.
11054	110.	48.	11.2	105.	7.8	4.69	149.	11.	8.
MEAN	118.	41.	11.8	104.	9.8	6.02	150.	15.	13.
S.D.	24.0	10.9	1.69	2.5	3.81	2.015	5.3	3.9	7.4
S.E.	8.0	3.6	0.54	0.8	1.20	0.637	1.7	1.2	2.3
N	9	9	10	10	10	10	10	10	10
QNS = QUANTITY NOT SUFFICIENT									
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER									

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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WEEK 12

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		MALES									
11003	4.2	6.7	2.6	1.63	0.06	13.9	0.3	104.	46.	91.	0.1
11005	3.7	6.0	2.3	1.59	0.02	13.3	0.3	69.	35.	86.	0.1
11007	4.1	6.8	2.8	1.49	0.03	13.7	0.3	79.	57.	150.	0.6
11008	3.7	6.1	2.5	1.48	0.05	13.0	0.3	86.	49.	123.	0.1
11017	3.8	6.4	2.6	1.47	0.03	11.6	0.3	94.	63.	109.	0.1
11018	4.0	6.5	2.5	1.57	0.02	15.0	0.3	94.	43.	102.	0.1
11027	3.7	6.5	2.8	1.31	0.05	16.6	0.2	89.	64.	170.	0.3
11031	3.7	6.4	2.8	1.34	0.06	19.3	0.4	66.	78.	184.	0.1
11038	3.6	5.8	2.2	1.63	0.05	18.2	0.3	86.	64.	136.	0.1
11043	3.5	6.2	2.8	1.25	0.03	17.2	0.2	91.	64.	153.	0.1
MEAN	3.8	6.3	2.6	1.48	0.04	15.2	0.3	86.	56.	130.	0.2
S.D.	0.23	0.31	0.22	0.136	0.016	2.52	0.06	11.7	12.8	33.7	0.16
S.E.	0.07	0.10	0.07	0.043	0.005	0.80	0.02	3.7	4.1	10.7	0.05
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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WEEK 12

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP: 300 MG/KG/DAY		MALES							
11003	137.	50.	11.1	100.	7.7	4.53	146.	37.	31.
11005	128.	49.	10.6	105.	6.8	4.00	146.	21.	14.
11007	176.	56.	12.2	103.	9.7	6.24	148.	30.	12.
11008	104.	48.	11.0	102.	9.6	4.59	149.	15.	29.
11017	125.	46.	12.9	106.	10.7	6.75	154.	14.	12.
11018	140.	20.	11.4	105.	9.3	6.82	150.	22.	9.
11027	119.	54.	11.2	103.	6.9	4.75	148.	30.	13.
11031	128.	40.	12.3	104.	9.6	5.92	147.	148.	12.
11038	102.	36.	11.2	102.	8.0	4.27	147.	10.	14.
11043	105.	46.	11.6	104.	8.5	5.29	148.	14.	14.
MEAN	126.	45.	11.6	103.	8.7	5.32	148.	34.	16.
S.D.	22.0	10.4	0.71	1.8	1.31	1.045	2.4	40.9	7.5
S.E.	7.0	3.3	0.22	0.6	0.41	0.330	0.7	12.9	2.4
N	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 600 MG/KG/DAY		MALES									
11024	4.2	6.6	2.4	1.76	0.03	16.5	0.3	94.	56.	122.	0.1
11030	3.8	6.7	2.9	1.30	0.03	15.4	0.3	65.	57.	145.	0.1
11034	3.8	6.4	2.5	1.53	0.04	17.8	0.3	99.	49.	108.	0.1
11035	4.4	7.0	2.6	1.65	0.06	15.0	0.3	99.	51.	99.	0.1
11004	3.8	6.0	2.3	1.66	0.04	17.3	0.2	83.	59.	116.	0.1
11042	3.8	6.5	2.7	1.42	0.07	16.4	0.3	82.	66.	122.	0.1
11049	4.0	6.1	2.2	1.81	0.02	15.7	0.3	78.	56.	102.	0.1
11058	3.8	5.7	1.9	1.95	0.06	16.6	0.2	100.	45.	96.	0.1
11059	3.7	6.0	2.4	1.55	0.02	15.9	0.2	79.	46.	102.	0.1
11060	3.8	6.1	2.3	1.67	0.07	15.5	0.3	84.	52.	97.	0.1
MEAN	3.9	6.3	2.4	1.63	0.04	16.2	0.3	86.	54.	111.	0.1
S.D.	0.22	0.40	0.28	0.190	0.020	0.88	0.05	11.5	6.4	15.5	0.00
S.E.	0.07	0.13	0.09	0.060	0.006	0.28	0.02	3.6	2.0	4.9	0.00
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP: 600	MG/KG/DAY	MALES							
11024	123.	43.	12.3	103.	10.7	7.10	151.	23.	13.
11030	97.	49.	11.4	104.	8.2	4.32	150.	12.	19.
11034	136.	44.	12.0	106.	10.3	6.48	151.	17.	11.
11035	146.	40.	12.8	102.	13.5	6.38	154.	16.	15.
11004	156.	46.	12.3	104.	11.2	6.91	150.	10.	9.
11042	83.	38.	12.2	104.	11.2	7.15	153.	22.	13.
11049	118.	44.	12.0	104.	8.4	6.25	148.	13.	10.
11058	124.	57.	10.5	103.	9.0	6.07	147.	18.	5.
11059	116.	36.	11.1	104.	7.8	4.48	148.	6.	10.
11060	109.	32.	11.2	104.	8.5	4.86	148.	5.	10.
MEAN	121.	43.	11.8	104.	9.9	6.00	150.	14.	12.
S.D.	21.8	7.0	0.70	1.0	1.81	1.066	2.3	6.1	3.8
S.E.	6.9	2.2	0.22	0.3	0.57	0.337	0.7	1.9	1.2
N	10	10	10	10	10	10	10	10	10
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER									

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL SERUM CHEMISTRY VALUES

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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP:	UNTREATED	FEMALES									
11069	5.1	8.0	2.9	1.80	0.15	14.9	0.3	71.	159.	213.	1.4
11082	6.0	8.3	2.3	2.59	0.20	13.9	0.3	51.	141.	304.	0.8
11088	4.8	7.3	2.5	1.88	0.07	14.5	0.3	43.	76.	135.	1.2
11089	4.6	7.0	2.4	1.90	0.11	13.9	0.2	47.	48.	92.	0.5
11090	4.9	7.5	2.6	1.91	0.11	15.2	0.3	61.	44.	108.	0.1
11091	5.5	8.8	3.3	1.67	0.29	18.2	0.4	44.	479.	965.	3.6
11092	4.6	7.0	2.5	1.84	0.11	19.7	0.3	48.	40.	79.	0.3
11093	4.6	7.4	2.8	1.67	0.05	16.8	0.3	54.	47.	90.	0.1
11098	4.5	6.6	2.1	2.15	0.08	14.6	0.3	52.	55.	106.	0.3
11115	5.0	7.6	2.6	1.96	0.12	14.6	0.3	76.	60.	121.	0.3
MEAN	5.0	7.6	2.6	1.94	0.13	15.6	0.3	55.	115.	221.	0.9
S.D.	0.47	0.66	0.34	0.268	0.070	1.96	0.05	11.2	134.6	270.4	1.06
S.E.	0.15	0.21	0.11	0.085	0.022	0.62	0.01	3.6	42.6	85.5	0.34
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP:	UNTREATED	FEMALES							
11069	107.	71.	12.7	103.	8.1	6.16	148.	41.	34.
11082	135.	98.	12.7	101.	9.0	5.02	150.	26.	44.
11088	177.	87.	12.7	102.	8.6	6.60	145.	43.	13.
11089	129.	50.	11.8	104.	8.8	3.87	148.	16.	11.
11090	109.	73.	12.6	102.	9.6	6.41	148.	81.	14.
11091	95.	120.	13.7	99.	11.2	6.24	150.	34.	101.
11092	117.	72.	11.3	105.	6.6	3.91	146.	25.	10.
11093	134.	83.	11.9	100.	8.5	4.28	145.	48.	9.
11098	125.	71.	11.7	105.	8.2	5.17	147.	18.	13.
11115	105.	54.	12.3	105.	8.0	4.91	150.	14.	18.
MEAN	123.	78.	12.3	103.	8.7	5.26	148.	35.	27.
S.D.	23.1	20.5	0.69	2.2	1.19	1.043	1.9	20.2	28.5
S.E.	7.3	6.5	0.22	0.7	0.38	0.330	0.6	6.4	9.0
N	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER

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TABLE A11
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 0 MG/KG/DAY	FEMALES										
11114	4.7	7.7	3.1	1.52	0.11	16.8	0.4	54.	60.	104.	0.9
11070	4.5	7.3	2.8	1.60	0.11	13.0	0.3	37.	72.	141.	0.1
11074	3.9	6.8	2.9	1.35	0.09	13.1	0.2	41.	39.	119.	0.1
11079	5.2	8.1	2.9	1.82	0.08	14.9	0.2	43.	44.	74.	0.1
11084	4.1	7.2	3.1	1.35	0.09	16.3	0.4	67.	80.	127.	0.1
11087	4.5	7.0	2.5	1.77	0.07	14.9	0.2	76.	33.	75.	0.4
11099	4.5	6.8	2.3	1.91	0.09	13.8	0.3	49.	77.	115.	0.3
11110	5.1	7.6	2.5	2.04	0.08	11.6	0.3	60.	56.	110.	0.4
11111	4.4	6.7	2.3	1.93	0.07	13.4	0.2	40.	40.	81.	0.4
11116	4.8	7.5	2.7	1.79	0.06	12.4	0.2	26.	62.	96.	0.9
MEAN	4.6	7.3	2.7	1.71	0.09	14.0	0.3	49.	56.	104.	0.4
S.D.	0.40	0.46	0.30	0.242	0.016	1.68	0.08	15.1	16.8	22.6	0.31
S.E.	0.13	0.14	0.09	0.077	0.005	0.53	0.03	4.8	5.3	7.2	0.10
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP:	0 MG/KG/DAY	FEMALES							
11114	97.	43.	12.6	103.	9.2	7.02	149.	26.	10.
11070	114.	81.	11.6	103.	7.9	3.72	148.	30.	13.
11074	107.	75.	11.9	104.	9.0	5.75	146.	15.	6.
11079	124.	111.	13.7	101.	10.7	7.16	145.	37.	6.
11084	101.	39.	12.5	104.	11.0	5.44	151.	17.	18.
11087	136.	107.	11.6	102.	6.2	4.00	144.	40.	7.
11099	122.	86.	12.2	104.	8.5	4.89	147.	21.	13.
11110	98.	71.	12.6	103.	10.7	6.11	149.	24.	13.
11111	119.	57.	12.4	105.	8.9	6.58	147.	17.	9.
11116	146.	106.	12.0	100.	7.6	4.70	145.	16.	10.
MEAN	116.	78.	12.3	103.	9.0	5.54	147.	24.	11.
S.D.	16.3	25.9	0.62	1.5	1.53	1.206	2.2	8.9	3.8
S.E.	5.2	8.2	0.20	0.5	0.48	0.381	0.7	2.8	1.2
N	10	10	10	10	10	10	10	10	10
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER									

ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT-ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 100	MG/KG/DAY	FEMALES									
11071	4.2	6.8	2.6	1.60	0.04	13.8	0.2	58.	92.	133.	0.1
11072	4.3	7.0	2.7	1.61	0.10	15.6	0.3	49.	75.	147.	0.9
11073	4.8	7.4	2.6	1.87	0.07	14.9	0.3	39.	44.	83.	0.1
11076	4.9	8.1	3.2	1.52	0.07	15.0	0.3	51.	37.	84.	0.1
11078	4.5	7.1	2.5	1.80	0.13	16.2	0.3	81.	51.	95.	0.5
11083	5.3	7.5	2.3	2.30	0.11	15.4	0.3	67.	49.	76.	0.1
11086	4.3	7.0	2.6	1.66	0.07	14.3	0.3	35.	35.	79.	0.1
11101	4.7	7.8	3.1	1.53	0.08	14.5	0.4	70.	80.	120.	0.4
11102	4.4	7.1	2.7	1.63	0.06	15.1	0.4	83.	67.	98.	0.6
11113	4.3	6.7	2.3	1.85	0.07	13.6	0.3	88.	104.	150.	0.3
MEAN	4.6	7.3	2.7	1.74	0.08	14.8	0.3	62.	63.	107.	0.3
S.D.	0.35	0.45	0.30	0.234	0.026	0.81	0.06	18.7	23.9	28.6	0.28
S.E.	0.11	0.14	0.09	0.074	0.008	0.26	0.02	5.9	7.6	9.0	0.09
N	10	10	10	10	10	10	10	10	10	10	10
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, q/dL = GRAMS/DECILITER											

ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP: 100	MG/KG/DAY	FEMALES							
11071	106.	84.	11.0	103.	7.5	3.92	147.	21.	18.
11072	93.	67.	11.3	105.	9.7	4.97	148.	31.	18.
11073	121.	53.	11.6	102.	7.7	3.56	145.	33.	16.
11076	150.	114.	13.6	102.	11.0	8.64	149.	35.	11.
11078	107.	61.	12.6	103.	9.3	4.43	149.	25.	22.
11083	150.	69.	12.7	105.	6.6	5.33	146.	31.	8.
11086	119.	64.	11.7	105.	8.9	5.74	149.	19.	8.
11101	116.	67.	12.4	101.	11.6	9.85	146.	22.	11.
11102	102.	60.	12.3	104.	7.7	4.16	147.	146.	13.
11113	106.	46.	12.2	103.	8.2	4.77	148.	16.	15.
MEAN	117.	69.	12.1	103.	8.8	5.54	147.	38.	14.
S.D.	19.3	18.9	0.76	1.4	1.60	2.078	1.4	38.5	4.6
S.E.	6.1	6.0	0.24	0.4	0.51	0.657	0.5	12.2	1.5
N	10	10	10	10	10	10	10	10	10
mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER									

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INDIVIDUAL SERUM CHEMISTRY VALUES

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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 300 MG/KG/DAY		FEMALES									
11066	4.5	7.2	2.7	1.65	0.10	14.8	0.3	39.	78.	125.	0.5
11075	4.6	7.2	2.6	1.80	0.07	15.5	0.4	45.	71.	126.	0.1
11077	5.3	7.9	2.5	2.10	0.10	12.3	0.3	37.	48.	109.	0.1
11080	4.5	7.2	2.6	1.73	0.10	13.2	0.2	36.	49.	103.	0.1
11085	5.3	9.5	4.2	1.25	0.12	19.3	0.4	76.	69.	150.	0.9
11094	4.1	6.8	2.7	1.50	0.05	13.8	0.3	52.	52.	114.	1.2
11103	4.7	6.8	2.1	2.24	0.09	15.6	0.2	30.	52.	146.	0.6
11105	4.1	6.8	2.7	1.53	0.07	13.1	1.3	70.	54.	95.	0.1
11106	3.9	6.1	2.3	1.72	0.07	15.4	0.3	63.	35.	89.	0.4
11119	4.8	7.3	2.5	1.94	0.06	14.6	0.2	47.	104.	168.	0.5
MEAN	4.6	7.3	2.7	1.75	0.08	14.8	0.4	50.	61.	123.	0.5
S.D.	0.48	0.91	0.56	0.293	0.022	1.96	0.33	15.5	19.7	25.6	0.38
S.E.	0.15	0.29	0.18	0.093	0.007	0.62	0.10	4.9	6.2	8.1	0.12
N	10	10	10	10	10	10	10	10	10	10	10

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

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ANIMAL	ALBUMIN	TOTAL PROTEIN	GLOBULIN	A/G RATIO	TOTAL BILI	UREA NITROGEN	CREAT- ININE	ALP	ALT	AST	GGT
	g/dL	g/dL	g/dL		mg/dL	mg/dL	mg/dL	U/L	U/L	U/L	U/L
GROUP: 600 MG/KG/DAY		FEMALES									
11062	5.1	7.8	2.7	1.88	0.14	16.4	0.4	65.	70.	131.	0.1
11065	5.1	7.7	2.7	1.92	0.09	14.6	0.3	54.	56.	108.	0.1
11096	4.5	6.9	2.4	1.83	0.12	15.1	0.3	46.	43.	82.	0.3
11081	4.6	7.0	2.4	1.97	0.09	12.7	0.3	75.	37.	82.	0.1
11095	4.8	QNS	QNS	QNS	0.28	QNS	QNS	59.	53.	103.	0.1
11097	4.4	7.0	2.6	1.69	0.05	12.8	0.3	43.	46.	100.	1.1
11104	5.2	8.2	3.0	1.72	0.10	16.1	0.4	54.	62.	111.	0.1
11112	4.5	6.9	2.4	1.88	0.11	16.2	0.3	47.	84.	133.	0.3
11117	4.6	6.8	2.2	2.08	0.08	14.4	0.2	40.	46.	95.	0.2
11118	4.8	7.4	2.6	1.89	0.08	15.4	0.3	56.	36.	85.	0.1
MEAN	4.8	7.3	2.6	1.87	0.11	14.9	0.3	54.	53.	103.	0.3
S.D.	0.29	0.50	0.24	0.119	0.063	1.38	0.06	10.7	15.2	18.4	0.31
S.E.	0.09	0.17	0.08	0.040	0.020	0.46	0.02	3.4	4.8	5.8	0.10
N	10	9	9	9	10	9	9	10	10	10	10

QNS = QUANTITY NOT SUFFICIENT

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, g/dL = GRAMS/DECILITER

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ANIMAL	GLUCOSE	CHOL- ESTEROL	CALCIUM	CHLORIDE	PHOS- PHORUS	POTAS- SIUM	SODIUM	TRIGLY- CERIDE	SDH
	mg/dL	mg/dL	mg/dL	mEq/L	mg/dL	mEq/L	mEq/L	mg/dL	U/L
GROUP: 600 MG/KG/DAY		FEMALES							
11062	83.	56.	12.6	102.	10.8	5.55	151.	26.	22.
11065	117.	78.	12.5	103.	8.0	4.34	149.	25.	20.
11096	121.	73.	12.4	104.	9.1	5.98	147.	22.	7.
11081	108.	80.	11.3	102.	7.2	3.91	142.	25.	10.
11095	QNS	QNS	13.1	103.	9.4	5.08	152.	33.	QNS
11097	120.	48.	12.2	103.	9.1	5.48	147.	20.	13.
11104	106.	64.	13.3	103.	9.1	6.21	151.	25.	18.
11112	105.	63.	11.8	103.	7.3	4.07	146.	31.	13.
11117	101.	51.	11.5	104.	7.8	4.80	146.	16.	7.
11118	121.	38.	12.4	102.	9.6	6.17	149.	13.	9.
MEAN	109.	61.	12.3	103.	8.7	5.16	148.	24.	13.
S.D.	12.4	14.3	0.64	0.7	1.14	0.857	3.0	6.1	5.6
S.E.	4.1	4.8	0.20	0.2	0.36	0.271	1.0	1.9	1.9
N	9	9	10	10	10	10	10	10	9

QNS = QUANTITY NOT SUFFICIENT

mg/dL = MILLIGRAMS/DECILITER, U/L = INTERNATIONAL UNIT/LITER, mEq/L = MILLIEQUIVALENTS/LITER

PCHEv4.06
08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 1

EXAMINER: DAW INPUT BY: JET		EXAM 1(WEEK -1)			
ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE	
11011	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11012	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11013	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11015	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11021	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11022	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11026	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11040	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11044	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11053	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL	P	
11001	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11009	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11010	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11014	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11029	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11033	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11037	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11046	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11052	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11057	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11006	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11019	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11020	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11025	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 2

EXAMINER:	DAW	INPUT BY:	JET		EXAM 1(WEEK -1)	
ANIMAL NO.	DOSE	GROUP	SEX	FINDING	GRADE	
11028	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11045	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11047	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11048	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11050	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11054	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11003	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11005	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11007	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11008	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11017	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11018	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11027	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11031	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11038	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11043	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11024	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11030	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11034	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11035	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11004	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11042	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11049	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11058	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 3

EXAMINER:	DAW INPUT BY: JET			EXAM 1(WEEK -1)	
ANIMAL NO.	DOSE GROUP	SEX	FINDING		GRADE
11059	600 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11060	600 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL		1
11069	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11082	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11088	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11089	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11090	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11091	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11092	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11093	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11098	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11115	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11114	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11070	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11074	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11079	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11084	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11087	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11099	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11110	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11111	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11116	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11071	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11072	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 4

EXAMINER:	DAW	INPUT BY:	JET		EXAM 1(WEEK -1)	
ANIMAL NO.	DOSE	GROUP	SEX	FINDING	GRADE	
11073	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11076	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11078	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11083	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11086	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11101	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11102	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11113	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11066	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11075	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11077	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11080	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11085	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11094	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11103	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11105	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11106	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11119	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11062	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11065	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11096	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11081	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11095	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	
11097	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P	

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A12 (WEEK -1 PRETEST EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 5

EXAMINER: DAW INPUT BY: JET			EXAM 1(WEEK -1)			
ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE		
11104	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11112	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11117	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11118	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PEXv4.03
08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 1

EXAMINER: BCG INPUT BY: MSH2		EXAM 2(WEEK 12)			
ANIMAL NO.	DOSE GROUP	SEX	FINDING		GRADE
11011	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11012	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11013	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11015	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11021	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11022	UNTREATED	MALE	CORNEAL CRYSTALS - BILATERAL		1
11026	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11040	UNTREATED	MALE	CORNEAL CRYSTALS - BILATERAL		1
11044	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11053	UNTREATED	MALE	NO OCULAR LESIONS - BILATERAL		P
11001	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11009	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11010	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11014	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11029	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11033	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11037	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11046	0 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11052	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL		1
11057	0 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL		1
11006	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL		1
11019	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11020	100 MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL		1
11025	100 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 2

EXAMINER: BCG INPUT BY: MSH2				EXAM 2(WEEK 12)		
ANIMAL NO.	DOSE	GROUP	SEX	FINDING	GRADE	
11028	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11045	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11047	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11048	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11050	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11054	100	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11003	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11005	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11007	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11008	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11017	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11018	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11027	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11031	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11038	300	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11043	300	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	
11024	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11030	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11034	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11035	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11004	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11042	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11049	600	MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL	P	
11058	600	MG/KG/DAY	MALE	CORNEAL CRYSTALS - BILATERAL	1	

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 3

EXAMINER: BCG INPUT BY: MSH2			EXAM 2(WEEK 12)		GRADE
ANIMAL NO.	DOSE GROUP	SEX	FINDING		
11059	600 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11060	600 MG/KG/DAY	MALE	NO OCULAR LESIONS - BILATERAL		P
11069	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11082	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11088	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11089	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11090	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11091	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11092	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11093	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11098	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11115	UNTREATED	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11114	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11070	0 MG/KG/DAY	FEMALE	CATARACT - BILATERAL NUCLEAR		1
11074	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11079	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11084	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11087	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11099	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11110	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11111	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11116	0 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P
11071	100 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL		P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
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TABLE A13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 4

EXAMINER: BCG INPUT BY: MSH2				EXAM 2(WEEK 12)	
ANIMAL NO.	DOSE	GROUP	SEX	FINDING	GRADE
11072	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11073	100	MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
11076	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11078	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11083	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11086	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11101	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11102	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11113	100	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11066	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11075	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11077	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11080	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11085	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11094	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11103	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11105	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11106	300	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11119	300	MG/KG/DAY	FEMALE	CORNEAL CRYSTALS - BILATERAL	1
				CATARACT - BILATERAL	1
				NUCLEAR	
11062	600	MG/KG/DAY	FEMALE	BLEPHARITIS - BILATERAL	2
11065	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P
11096	600	MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A13 (WEEK 12 EXAMINATION)
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL OPHTHALMIC EXAMINATION FINDINGS

PAGE 5

EXAMINER: BCG INPUT BY: MSH2			EXAM 2(WEEK 12)			
ANIMAL NO.	DOSE GROUP	SEX	FINDING	GRADE		
11081	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11095	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11097	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11104	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11112	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11117	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		
11118	600 MG/KG/DAY	FEMALE	NO OCULAR LESIONS - BILATERAL	P		

CODE: 1-SLIGHT, 2-MODERATE, 3-SEVERE, P-PRESENT, O.D.-RIGHT EYE, O.S.-LEFT EYE

PEXv4.03
08/17/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

PAGE 1

ANIMAL NO. 11011 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
BRAIN	2.07	0.480	LUNGS	MICRO: MACROPHAGES, ALVEOLAR	((1))
LIVER	12.03	2.791	NO SIGNIFICANT		
KIDNEYS	2.83	0.657	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
SPLEEN	0.89	0.206		JOINT	
HEART	1.57	0.364		DUODENUM	
TESTES	3.16	0.733		NERVES, OPTIC	
EPIDIDYMIDES	1.26	0.292		KIDNEYS	
PROSTATE	1.22	0.283		LN, MANDIBULAR	
THYMUS	0.2367	0.055		LUNGS	
ADRENAL GLANDS	0.0612	0.014		PITUITARY	
PITUITARY	0.0153	0.004		SAL. GLAND MAND	
THYROIDS/PARATHY	0.0126	0.003		SPLEEN	
FINAL BODY WT(G)	431.			THYMUS	
				SKIN, UNTREATED	
				MICRO:ADRENAL CORTEX	
				MARROW, STERN	
				BRAIN	
				EPIDIDYMIDES	
				HEART	
				LN, MANDIBULAR	
				PANCREAS	
				SPINAL CORD	
				SKELETAL MUSCLE	
				TESTES	
				TRACHEA	
				SKIN, TREATED	
				ADRENAL MEDULLA	
				FEMUR	
				CECUM	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				PITUITARY	
				SAL. GLAND MAND	
				SKIN	
				THYROID GLANDS	
				URINARY BLADDER	
				LN, AXILLARY	
				STERNUM	
				CECUM	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				NERVE, SCIATIC	
				RECTUM	
				STOMACH, GLAN	
				SKELETAL MUSCLE	
				TESTES	
				PARATHYROIDS	
				LN, AXILLARY	
				STERNUM	
				JOINT	
				DUODENUM	
				NERVES, OPTIC	
				KIDNEYS	
				NERVE, SCIATIC	
				RECTUM	
				STOMACH, NON	
				SEMINAL VESICLES	
				THYMUS	
				SKIN, UNTREATED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

PAGE 2

ANIMAL NO.	11012	GROUP	1:	UNTREATED	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY						(1)
BRAIN	2.19	0.420		APEX						
LIVER	13.36	2.564	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE						((1))
KIDNEYS	3.33	0.639	LIVER	MICRO: INFILTRATE, MONONUCLEAR						((1))
SPLEEN	0.88	0.169	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR						1
HEART	1.58	0.303		VENTRAL PROSTATE						
TESTES	3.50	0.672	SKIN	MICRO: INFILTRATE, MONONUCLEAR						1
EPIDIDYMIDES	1.36	0.261		SUPERFICIAL DERMIS						
PROSTATE	0.99	0.190	URINARY BLADDER	MICRO: INFILTRATE, MONONUCLEAR						(1)
THYMUS	0.3836	0.074		PROPRIA-SUBMUCOSA						
ADRENAL GLANDS	0.0540	0.010	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR						1
PITUITARY	0.0146	0.003		SUPERFICIAL DERMIS						
THYROIDS/PARATHY	0.0176	0.003	NO SIGNIFICANT							
FINAL BODY WT(G)	521.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS						
				JOINT						
				DUODENUM						
				NERVES, OPTIC						
				KIDNEYS						
				LN, MESENTERIC						
				PITUITARY						
				SAL. GLAND MAND						
				SPLEEN						
				THYMUS						
				SKIN, UNTREATED						
				MICRO:ADRENAL CORTEX						
				MARROW, STERN						
				BRAIN						
				AORTA						
				BRAIN						
				EPIDIDYMIDES						
				HEART						
				LN, MANDIBULAR						
				LUNGS						
				PROSTATE						
				STOMACH						
				SEMINAL VESICLES						
				TRACHEA						
				SKIN, TREATED						
				ADRENAL MEDULLA						
				FEMUR						
				CECUM						
				STERNUM						
				CECUM						
				ESOPHAGUS						
				ILEUM						
				LAC. GLAND EXOR						
				NERVE, SCIATIC						
				RECTUM						
				SKELETAL MUSCLE						
				TESTES						
				URINARY BLADDER						
				FEMUR						
				COLON						
				STERNUM						
				JOINT						
				DUODENUM						

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11012 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

EPIDIDYMIDES ESOPHAGUS EYES NERVES, OPTIC
ILEUM JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS NERVE, SCIATIC PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11013 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.07	0.431	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	12.09	2.519		VENTRAL PROSTATE				
KIDNEYS	3.64	0.758	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.85	0.177		SUPERFICIAL DERMIS				
HEART	1.34	0.279	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.63	0.756		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.36	0.283	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	1.08	0.225		SUPERFICIAL DERMIS				
THYMUS	0.3800	0.079	NO SIGNIFICANT					
ADRENAL GLANDS	0.0597	0.012	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
PITUITARY	0.0151	0.003		JOINT	BRAIN	CECUM	COLON	
THYROIDS/PARATHY	0.0200	0.004		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
FINAL BODY WT(G)	480.			NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	
				NERVE, SCIATIC	PANCREAS	PITUITARY	RECTUM	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11013 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SPLEEN SEMINAL VESICLES TESTES
THYROID GLANDS PARATHYROIDS THYMUS TRACHEA
URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11015	GROUP	1:	UNTREATED	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		AORTA		MICRO: MACROPHAGES, PIGMENTED				1
BRAIN	2.07	0.494				ADVENTITIA (IN LONGITUDINAL SECTION)				
LIVER	10.39	2.480		KIDNEYS		MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	2.89	0.690		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.73	0.174		PROSTATE		MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.58	0.377				VENTRAL PROSTATE				
TESTES	3.85	0.919		SKIN		MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.43	0.341				SUPERFICIAL DERMIS				
PROSTATE	1.06	0.253		PARATHYROIDS		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
THYMUS	0.2286	0.055				ONE OF PAIR NOT IN THE PLANE OF SECTION				
ADRENAL GLANDS	0.0564	0.013		SKIN, UNTREATED		MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0117	0.003				SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0208	0.005		SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR				(1)
FINAL BODY WT(G)	419.					SUBCUTIS				
				NO SIGNIFICANT CHANGES OBSERVED		GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
						NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
						KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
						LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
						PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
						SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
						SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
						THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
						SKIN, UNTREATED	SKIN, TREATED			

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11015 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

MICRO:ADRENAL CORTEX ADRENAL MEDULLA STERNUM MARROW, STERN
FEMUR MARROW, FEMUR JOINT BRAIN
CECUM COLON DUODENUM EPIDIDYMITES
ESOPHAGUS EYES HEART ILEUM
JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR LN, MESENTERIC
LUNGS NERVE, SCIATIC PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN SEMINAL VESICLES
TESTES THYROID GLANDS PARATHYROID THYMUS
TRACHEA URINARY BLADDER LN, AXILLARY

NOT PRESENT FOR EXAMINATION

MICRO:NERVES, OPTIC

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11021 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				(1)
BRAIN	2.12	0.416		APEX WITH HEMORRHAGE				
LIVER	16.36	3.208	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	3.68	0.722	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.90	0.176		SUPERFICIAL DERMIS				
HEART	1.88	0.369	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.82	0.749		SUBCUTIS				
EPIDIDYMIDES	1.33	0.261	NO SIGNIFICANT					
PROSTATE	0.99	0.194	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYMUS	0.3261	0.064		JOINT	BRAIN	CECUM	COLON	
ADRENAL GLANDS	0.0570	0.011		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
PITUITARY	0.0131	0.003		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
THYROIDS/PARATHY	0.0208	0.004		KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
FINAL BODY WT(G)	510.			LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	
				PANCREAS	PITUITARY	PROSTATE	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	
				SKELETAL MUSCLE	SKIN	SPLEEN	SEMINAL VESICLES	
				TESTES	THYROID GLANDS	PARATHYROIDS	THYMUS	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11021 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11022 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
BRAIN	2.08	0.398	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
LIVER	12.78	2.448	STOMACH, GLAN	MICRO: DILATATION, GLANDULAR	1
KIDNEYS	3.59	0.688	PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
SPLEEN	0.73	0.140		ONE OF PAIR NOT IN THE PLANE OF SECTION	
HEART	1.64	0.314	NO SIGNIFICANT		
TESTES	3.33	0.638	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
EPIDIDYMIDES	1.26	0.241		JOINT	
PROSTATE	1.25	0.239		DUODENUM	
THYMUS	0.2443	0.047		NERVES, OPTIC	
ADRENAL GLANDS	0.0692	0.013		KIDNEYS	
PITUITARY	0.0146	0.003		LN, MESENTERIC	
THYROID/PARATHY	0.0143	0.003		PITUITARY	
FINAL BODY WT(G)	522.			SAL. GLAND MAND	
				SPLEEN	
				THYMUS	
				SKIN, UNTREATED	
				MICRO:ADRENAL CORTX	
				MARROW, STERN	
				BRAIN	
				EPIDIDYMIDES	
				HEART	
				LAC. GLAND EXOR	
				PANCREAS	
				SPINAL CORD	
				SKIN	
				THYROID GLANDS	
				URINARY BLADDER	
				AORTA	
				BRAIN	
				EPIDIDYMIDES	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				PROSTATE	
				RECTUM	
				SKELETAL MUSCLE	
				TESTES	
				URINARY BLADDER	
				SKIN, TREATED	
				ADRENAL MEDULLA	
				FEMUR	
				MARROW, FEMUR	
				COLON	
				ESOPHAGUS	
				EYES	
				JEJUNUM	
				LN, MANDIBULAR	
				LUNGS	
				PROSTATE	
				STOMACH, NON	
				SEMINAL VESICLES	
				THYMUS	
				SKIN, UNTREATED	
				STERNUM	
				JOINT	
				DUODENUM	
				NERVES, OPTIC	
				LN, MANDIBULAR	
				NERVE, SCIATIC	
				RECTUM	
				SKELETAL MUSCLE	
				TESTES	
				TRACHEA	
				SKIN, TREATED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11026 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY				P
BRAIN	2.07	0.483		OPTIC NERVE, RIGHT				
LIVER	12.21	2.846	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.24	0.755	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.74	0.172	PANCREAS	MICRO: FIBROSIS, INTERSTITIAL				(1)
HEART	1.38	0.322		WITH ACINAR ATROPHY				
TESTES	3.61	0.841	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.44	0.336		SUPERFICIAL DERMIS				
PROSTATE	0.54	0.126	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2162	0.050		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0694	0.016	NO SIGNIFICANT					
PITUITARY	0.0124	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0157	0.004		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	429.			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11026 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SAL. GLAND MAND STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE
SKIN SPLEEN SEMINAL VESICLES TESTES
THYROID GLANDS PARATHYROIDS THYMUS TRACHEA
URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11040	GROUP	1:	UNTREATED	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		HEART		MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.11	0.442				LEFT VENTRICLE, INTERVENTRICULAR SEPTUM				
LIVER	12.44	2.608		KIDNEYS		MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.18	0.667		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.82	0.172		PROSTATE		MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.34	0.281				VENTRAL PROSTATE				
TESTES	3.81	0.799		THYMUS		GROSS: AREA(S), DARK RED				P
EPIDIDYMIDES	1.35	0.283				FEW, IRREGULARLY SHAPED				
PROSTATE	1.26	0.264		^==>		THYMUS: HEMORRHAGE				
THYMUS	0.3055	0.064		THYMUS		MICRO: HEMORRHAGE				((1))
ADRENAL GLANDS	0.0572	0.012		SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0132	0.003				SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0195	0.004		NO SIGNIFICANT						
FINAL BODY WT(G)	477.			CHANGES OBSERVED		GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
						NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
						KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
						LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
						PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
						SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
						SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
						TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	
						SKIN, TREATED				
						MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
						MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
						BRAIN	CECUM	COLON	DUODENUM	
						EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
						ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11040 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

LN, MESENTERIC LUNGS NERVE, SCIATIC PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SKIN
SPLEEN SEMINAL VESICLES TESTES THYROID GLANDS
PARATHYROIDS TRACHEA URINARY BLADDER LN, AXILLARY
SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11044 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				(1)
BRAIN	2.16	0.429		LEFT VENTRICLE				
LIVER	13.46	2.676	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.59	0.714	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.72	0.143	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.41	0.280		SUPERFICIAL DERMIS				
TESTES	3.60	0.716	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.58	0.314		SUPERFICIAL DERMIS				
PROSTATE	1.21	0.241	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.1879	0.037		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0669	0.013	NO SIGNIFICANT					
PITUITARY	0.0138	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0181	0.004		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	503.			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11044 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11053 GROUP 1: UNTREATED MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.29	0.503	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	12.05	2.648		SUPERFICIAL DERMIS				
KIDNEYS	3.58	0.787	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.88	0.193		SUPERFICIAL DERMIS				
HEART	1.66	0.365	NO SIGNIFICANT					
TESTES	3.59	0.789	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
EPIDIDYMIDES	1.54	0.338		JOINT	BRAIN	CECUM	COLON	
PROSTATE	1.31	0.288		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
THYMUS	0.3042	0.067		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
ADRENAL GLANDS	0.0688	0.015		KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
PITUITARY	0.0150	0.003		LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
THYROIDS/PARATHY	0.0212	0.005		PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
FINAL BODY WT(G)	455.			SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	
				NERVE, SCIATIC	PANCREAS	PITUITARY	PROSTATE	
				RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	
				STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES	
				TESTES	THYROID GLANDS	PARATHYROIDS	THYMUS	
				TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11001 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE			((1))
BRAIN	2.23	0.459	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
LIVER	13.28	2.733	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
KIDNEYS	3.42	0.704		PARS NERVOSA NOT IN THE PLANE OF SECTION			
SPLEEN	0.78	0.160	THYMUS	MICRO: HEMORRHAGE			((1))
HEART	1.64	0.337	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
TESTES	3.90	0.802		SUPERFICIAL DERMIS			
EPIDIDYMIDES	1.56	0.321	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
PROSTATE	0.93	0.191		SUPERFICIAL DERMIS			
THYMUS	0.4111	0.085	NO SIGNIFICANT				
ADRENAL GLANDS	0.0558	0.011	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
PITUITARY	0.0133	0.003		JOINT	BRAIN	CECUM	COLON
THYROIDS/PARATHY	0.0150	0.003		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
FINAL BODY WT(G)	486.			NERVES, OPTIC	HEART	ILEUM	JEJUNUM
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
				SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	LN, MANDIBULAR
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC
				PANCREAS	PITUITARY	PROSTATE	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON

ANIMAL NO. 11001 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89

GRADE

-----				SKELETAL MUSCLE	SKIN	SPLEEN	SEMINAL VESICLES
				TESTES	THYROID GLANDS	PARATHYROIDS	TRACHEA
				URINARY BLADDER	LN, AXILLARY		
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT							
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT							
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED							

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11009 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.14	0.450	PROSTATE	MICRO: INFLAMMATION, SUBACUTE				(1)
LIVER	12.54	2.634		DORSAL PROSTATE, INTERSTITIUM WITH NEUTROPHILS IN GLAND LUMEN				
KIDNEYS	3.35	0.704	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.76	0.160		SUPERFICIAL DERMIS				
HEART	1.36	0.286	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.73	0.784		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.29	0.271	NO SIGNIFICANT					
PROSTATE	1.16	0.244	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYMUS	0.2462	0.052		JOINT	BRAIN	CECUM	COLON	
ADRENAL GLANDS	0.0910	0.019		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
PITUITARY	0.0148	0.003		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
THYROIDS/PARATHY	0.0209	0.004		KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
FINAL BODY WT(G)	476.			LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	
				NERVE, SCIATIC	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	
				SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES	TESTES	
				THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11009 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

URINARY BLADDER LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11010 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY	((1))
BRAIN	2.14	0.445		APEX, RIGHT VENTRICLE, INTERVENTRICULAR SEPTUM, PAPILLARY M.	
LIVER	12.10	2.516	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
KIDNEYS	3.04	0.632	LUNGS	MICRO: INFILTRATE, MONONUCLEAR, PERIVASCULAR	1
SPLEEN	0.86	0.179	PANCREAS	MICRO: FIBROSIS, INTERSTITIAL	(1)
HEART	1.59	0.331		WITH CHRONIC INFLAMMATION	
TESTES	3.71	0.771		FIBROPLASIA, ISLETS	(1)
EPIDIDYMIDES	1.41	0.293	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
PROSTATE	1.02	0.212		SUPERFICIAL DERMIS	
THYMUS	0.2489	0.052	THYMUS	GROSS: AREA(S), DARK RED	P
ADRENAL GLANDS	0.0609	0.013		FEW, PINPOINT	
PITUITARY	0.0139	0.003	^==>	THYMUS: HEMORRHAGE	
THYROID/PARATHY	0.0260	0.005	THYMUS	MICRO: HEMORRHAGE	((2))
FINAL BODY WT(G)	481.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				NERVES, OPTIC	
				KIDNEYS	
				LN, MESENTERIC	
				PITUITARY	
				SAL. GLAND MAND	
				SPLEEN	
				AORTA	
				BRAIN	
				EPIDIDYMIDES	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				PROSTATE	
				STOMACH	
				SEMINAL VESICLES	
				STERNUM	
				CECUM	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				NERVE, SCIATIC	
				RECTUM	
				SKELETAL MUSCLE	
				TESTES	
				FEMUR	
				COLON	
				EYES	
				JEJUNUM	
				LIVER	
				PANCREAS	
				SPINAL CORD	
				SKIN	
				THYROID GLANDS	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11010 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

TRACHEA URINARY BLADDER LN, AXILLARY SKIN, UNTREATED
SKIN, TREATED
MICRO:ADRENAL CORTEX ADRENAL MEDULLA AORTA STERNUM
MARROW, STERN FEMUR MARROW, FEMUR JOINT
BRAIN CECUM COLON DUODENUM
EPIDIDYMIDES ESOPHAGUS EYES NERVES, OPTIC
ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LAC. GLAND EXOR LN, MESENTERIC NERVE, SCIATIC PITUITARY
PROSTATE RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11014 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	EPIDIDYMIDES	MICRO: INFILTRATE, MONONUCLEAR				1
BRAIN	2.12	0.461	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
LIVER	12.59	2.737	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	3.24	0.704	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR				2
SPLEEN	0.74	0.161		VENTRAL PROSTATE				
HEART	1.61	0.350	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.72	0.809		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.45	0.315	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	1.04	0.226		SUPERFICIAL DERMIS				
THYMUS	0.2113	0.046	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0634	0.014		SUPERFICIAL DERMIS				
PITUITARY	0.0176	0.004	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0183	0.004	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	460.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

PAGE 25

ANIMAL NO. 11014 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

LN, MESENTERIC LUNGS NERVE, SCIATIC PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11029	GROUP	2:	0 MG/KG/DAY	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.			HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.21	0.426				LEFT AND RIGHT VENTRICLES, INTERVENTRICULAR SEPTUM, APEX				
LIVER	14.71	2.834			KIDNEYS	GROSS: AREA(S), DEPRESSED				P
KIDNEYS	3.67	0.707				ONE, 2 MM IN DIAMETER, IN CORTEX, RIGHT				
SPLEEN	0.85	0.164			^==>	KIDNEYS: DILATATION, TUBULAR				
HEART	2.06	0.397			KIDNEYS	MICRO: DILATATION, TUBULAR				(2)
TESTES	3.84	0.740				SUBCAPSULAR				
EPIDIDYMIDES	1.47	0.283				NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
PROSTATE	0.80	0.154				WITH CAPSULAR DILATATION				
THYMUS	0.3174	0.061			LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
ADRENAL GLANDS	0.0668	0.013				NECROSIS, COAGULATIVE				(1)
PITUITARY	0.0191	0.004				SUBCAPSULAR				
THYROIDS/PARATHY	0.0204	0.004			LUNGS	MICRO: MACROPHAGES, ALVEOLAR				(1)
FINAL BODY WT(G)	519.				SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
					PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
						ONE OF PAIR NOT IN THE PLANE OF SECTION				
					SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
					SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
					NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11029 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
NERVES, OPTIC	HEART	ILEUM	JEJUNUM
LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH	SKELETAL MUSCLE	SKIN	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROID
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11033 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
BRAIN	2.16	0.466	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((2))
LIVER	12.27	2.644	PROSTATE	MICRO: EXUDATE, INFLAMMATORY	2
KIDNEYS	3.18	0.685		DORSAL PROSTATE, LUMENS	
SPLEEN	0.75	0.162	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
HEART	1.48	0.319		SUPERFICIAL DERMIS	
TESTES	3.10	0.668	TESTES	MICRO: ATROPHY, SEMINIFEROUS TUBULES	1
EPIDIDYMIDES	1.27	0.274		UNILATERAL, PERIPHERY OF TESTIS.	
PROSTATE	1.07	0.231	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
THYMUS	0.2439	0.053		SUPERFICIAL DERMIS	
ADRENAL GLANDS	0.0552	0.012	NO SIGNIFICANT		
PITUITARY	0.0148	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
THYROIDS/PARATHY	0.0185	0.004		JOINT	
FINAL BODY WT(G)	464.			DUODENUM	
				NERVES, OPTIC	
				KIDNEYS	
				LN, MANDIBULAR	
				LN, MESENTERIC	
				PITUITARY	
				SAL. GLAND MAND	
				SPLEEN	
				THYMUS	
				SKIN, UNTREATED	
				MICRO:ADRENAL CORTEX	
				MARROW, STERN	
				BRAIN	
				EPIDIDYMIDES	
				HEART	
				LAC. GLAND EXOR	
				LN, MESENTERIC	
				AORTA	
				BRAIN	
				CECUM	
				ESOPHAGUS	
				EYES	
				JEJUNUM	
				LUNGS	
				STERNUM	
				CECUM	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				NERVE, SCIATIC	
				RECTUM	
				SKELETAL MUSCLE	
				TESTES	
				URINARY BLADDER	
				THYROID GLANDS	
				LN, AXILLARY	
				SKIN	
				SPINAL CORD	
				STERNUM	
				JOINT	
				DUODENUM	
				NERVES, OPTIC	
				LN, MANDIBULAR	
				NERVE, SCIATIC	

ANIMAL NO. 11033 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90

GRADE

PANCREAS	PITUITARY	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROID

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11037 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	2.00	0.414		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	13.52	2.799	HEART	MICRO: CARDIOMYOPATHY			((1))
KIDNEYS	3.23	0.669		APEX, LEFT VENTRICLE			
SPLEEN	0.85	0.176	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
HEART	1.59	0.329	PANCREAS	MICRO: FIBROSIS, INTERSTITIAL			(1)
TESTES	3.34	0.692		WITH MINIMAL CHRONIC INFLAMMATION AND ACINAR ATROPHY, FOCAL			
EPIDIDYMIDES	1.34	0.277	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
PROSTATE	1.06	0.219		SUPERFICIAL DERMIS			
THYMUS	0.3783	0.078	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
ADRENAL GLANDS	0.0555	0.011		SUPERFICIAL DERMIS			
PITUITARY	0.0154	0.003	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
THYROIDS/PARATHY	0.0107	0.002		SUPERFICIAL DERMIS			
FINAL BODY WT(G)	483.		NO SIGNIFICANT CHANGES OBSERVED				
			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
			JOINT	BRAIN	CECUM	COLON	
			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
			NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
			KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
			LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
			PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
			SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
			SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
			THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
			SKIN, UNTREATED	SKIN, TREATED			
			MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	

ANIMAL NO.11037GROUP 2: 0 MG/KG/DAYMALESCHEDULED EUTH08/07/11DATE OF DEATH: 08/07/11STUDY DAY: 90
GRADE

MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC
PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11046	GROUP	2:	0 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.			HEART	MICRO: CARDIOMYOPATHY				(1)
BRAIN	2.00	0.433				LEFT VENTRICLE				
LIVER	11.89	2.574			ILEUM	MICRO: ABSCESS, CRYPTS				(1)
KIDNEYS	3.13	0.677				OVERLYING PEYER'S PATCH				
SPLEEN	0.83	0.180			KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				1
HEART	1.44	0.312			LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
TESTES	3.23	0.699			SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.15	0.249				SUPERFICIAL DERMIS				
PROSTATE	1.30	0.281			PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
THYMUS	0.2026	0.044				ONE OF PAIR NOT IN THE PLANE OF SECTION				
ADRENAL GLANDS	0.0706	0.015			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0136	0.003				SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0118	0.003			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
FINAL BODY WT(G)	462.					SUPERFICIAL DERMIS				
					NO SIGNIFICANT CHANGES OBSERVED					
					GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
					JOINT	BRAIN	CECUM	COLON		
					DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
					NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
					KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
					LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
					PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
					SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
					SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS		
					THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY		
					SKIN, UNTREATED	SKIN, TREATED				

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11046 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROIDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11052	GROUP	2:	0 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	EYES			MICRO: VESICLE, INTRAEPITHELIAL				(2)
BRAIN	2.01	0.488				CORNEA				
LIVER	9.32	2.262	KIDNEYS			GROSS: AREA(S), DEPRESSED				P
KIDNEYS	2.84	0.689				FEW, IRREGULARLY SHAPED, IN CORTEX, BILATERAL				
SPLEEN	0.73	0.177	^==>			KIDNEYS: NEPHROPATHY, CHRONIC PROGRESSIVE				
HEART	1.60	0.388	KIDNEYS			MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
TESTES	3.62	0.879				WITH FOCAL TUBULAR DILATATION OR CAPSULAR DEPRESSION				
EPIDIDYMIDES	1.45	0.352	LN, MANDIBULAR			GROSS: ENLARGED				P
PROSTATE	1.02	0.248				RIGHT				
THYMUS	0.1610	0.039	^==>			GROSS UNCONFIRMED				
ADRENAL GLANDS	0.0623	0.015	LIVER			MICRO: INFILTRATE, MONONUCLEAR				((1))
PITUITARY	0.0122	0.003	LUNGS			MICRO: MACROPHAGES, ALVEOLAR				(1)
THYROIDS/PARATHY	0.0144	0.003	PROSTATE			MICRO: INFILTRATE, MONONUCLEAR				1
FINAL BODY WT(G)	412.					VENTRAL PROSTATE				
			SKIN			MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
			THYMUS			MICRO: HEMORRHAGE				((1))
			SKIN, TREATED			MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
			NO SIGNIFICANT							
			CHANGES OBSERVED			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
						NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
						LAC. GLAND EXOR	LIVER	LN, MESENTERIC	LUNGS	
						NERVE, SCIATIC	PANCREAS	PITUITARY	PROSTATE	
						RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH	

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11052 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

	SKELETAL MUSCLE	SKIN	SPLEEN	SEMINAL VESICLES
	TESTES	THYROID GLANDS	THYMUS	TRACHEA
	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:	ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
	MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
	BRAIN	CECUM	COLON	DUODENUM
	EPIDIDYMIDES	ESOPHAGUS	NERVES, OPTIC	HEART
	ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS	PITUITARY
	RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
	STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES
	TESTES	THYROID GLANDS	PARATHYROIDS	TRACHEA
	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11057 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	1.96	0.462		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	12.32	2.906	HEART	MICRO: CARDIOMYOPATHY			
KIDNEYS	3.24	0.764		APEX			
SPLEEN	0.85	0.200	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE			
HEART	1.39	0.328	LIVER	MICRO: INFILTRATE, MONONUCLEAR			
TESTES	3.25	0.767	LUNGS	MICRO: MACROPHAGES, ALVEOLAR			
EPIDIDYMIDES	1.31	0.309	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR			
PROSTATE	1.11	0.262		VENTRAL PROSTATE			
THYMUS	0.2369	0.056	SKIN	MICRO: INFILTRATE, MONONUCLEAR			
ADRENAL GLANDS	0.0690	0.016		SUPERFICIAL DERMIS			
PITUITARY	0.0145	0.003	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
THYROIDS/PARATHY	0.0200	0.005		ONE OF PAIR NOT IN THE PLANE OF SECTION			
FINAL BODY WT(G)	424.		SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			
				SUPERFICIAL DERMIS			
			NO SIGNIFICANT CHANGES OBSERVED				
			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
			JOINT	BRAIN	CECUM	COLON	
			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
			NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
			KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
			LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
			PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
			SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
			SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
			THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11057 GROUP 2: 0 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SKIN, UNTREATED	SKIN, TREATED		
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	NERVE, SCIATIC	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES
TESTES	THYROID GLANDS	PARATHYROIDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11006 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LAC. GLAND EXOR	MICRO: INFILTRATE, NEUTROPHIL				((1))
BRAIN	2.15	0.465	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
LIVER	12.40	2.684	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
KIDNEYS	3.10	0.671		SUPERFICIAL DERMIS				
SPLEEN	0.64	0.139	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
HEART	1.62	0.351		ONE OF PAIR NOT IN THE PLANE OF SECTION				
TESTES	3.36	0.727	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYIMIDES	1.27	0.275		SUPERFICIAL DERMIS				
PROSTATE	0.90	0.195	NO SIGNIFICANT					
THYMUS	0.2062	0.045	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
ADRENAL GLANDS	0.0766	0.017		JOINT	BRAIN	CECUM	COLON	
PITUITARY	0.0135	0.003		DUODENUM	EPIDIDYIMIDES	ESOPHAGUS	EYES	
THYROIDES/PARATHY	0.0207	0.004		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
FINAL BODY WT(G)	462.			KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYIMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	
				PANCREAS	PITUITARY	PROSTATE	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	
				SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES	TESTES	

ANIMAL NO. 11006 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

THYROID GLANDS PARATHYROIDSKN, AXILLARY THYMUS TRACHEA
URINARY BLADDER LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11019 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY			P
BRAIN	2.09	0.439		THYROID GLAND, RIGHT			
LIVER	12.74	2.676	HEART	MICRO: CARDIOMYOPATHY			((1))
KIDNEYS	3.33	0.700		APEX, INTERVENTRICULAR SEPTUM			
SPLEEN	0.77	0.162	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE			((1))
HEART	1.56	0.328	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
TESTES	3.58	0.752	STOMACH, GLAN	MICRO: DILATATION, GLANDULAR			1
EPIDIDYMIDES	1.25	0.263	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
PROSTATE	0.81	0.170		ONE OF PAIR NOT IN THE PLANE OF SECTION			
THYMUS	0.2678	0.056	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
ADRENAL GLANDS	0.0545	0.011		SUPERFICIAL DERMIS			
PITUITARY	0.0144	0.003	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
THYROIDS/PARATHY	0.0119	0.003		SUPERFICIAL DERMIS			
FINAL BODY WT(G)	476.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
				SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11019 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

EPIDIDYMITIS ESOPHAGUS EYES NERVES, OPTIC
ILEUM JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS NERVE, SCIATIC PANCREAS
PITUITARY PROSTATE RECTUM SPINAL CORD
SAL. GLAND MAND STOMACH, NON SKELETAL MUSCLE SKIN
SPLEEN SEMINAL VESICLES TESTES THYROID GLANDS
PARATHYROID THYMUS TRACHEA URINARY BLADDER
LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11020 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				(1)
BRAIN	2.05	0.487		RIGHT VENTRICLE				
LIVER	12.46	2.960	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	3.44	0.817	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR				2
SPLEEN	0.69	0.164		VENTRAL PROSTATE				
HEART	1.44	0.342	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.39	0.805		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.54	0.366	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	1.01	0.240		SUPERFICIAL DERMIS				
THYMUS	0.2070	0.049	NO SIGNIFICANT					
ADRENAL GLANDS	0.0607	0.014	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
PITUITARY	0.0154	0.004		JOINT	BRAIN	CECUM	COLON	
THYROIDS/PARATHY	0.0184	0.004		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
FINAL BODY WT(G)	421.			NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	KIDNEYS	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND	

ANIMAL NO. 11020 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89

GRADE

STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER LN, AXILLARY
SKIN, UNTREATED

NOT PRESENT FOR EXAMINATION

MICRO:LN, MANDIBULAR

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11025 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.16	0.486		APEX, LEFT VENTRICLE				
LIVER	11.35	2.556	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				(1)
KIDNEYS	3.13	0.705	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.69	0.155		SUPERFICIAL DERMIS				
HEART	1.55	0.349	THYROID GLANDS	MICRO: ECTOPIC THYMUS				(P)
TESTES	3.33	0.750	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYIMIDES	1.22	0.275		SUPERFICIAL DERMIS				
PROSTATE	0.91	0.205	NO SIGNIFICANT					
THYMUS	0.1719	0.039	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
ADRENAL GLANDS	0.0627	0.014		JOINT	BRAIN	CECUM	COLON	
PITUITARY	0.0113	0.003		DUODENUM	EPIDIDYIMIDES	ESOPHAGUS	EYES	
THYROIDS/PARATHY	0.0164	0.004		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
FINAL BODY WT(G)	444.			KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYIMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LIVER	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	
				PANCREAS	PITUITARY	PROSTATE	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	
				SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES	TESTES	

ANIMAL NO. 11025 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

PARATHYROIDSLN, AXILLARY

THYMUS
SKIN, UNTREATED

TRACHEA

URINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11028 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.15	0.415		APEX, LEFT VENTRICLE				
LIVER	14.31	2.763	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.61	0.697	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.80	0.154	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.72	0.332		SUPERFICIAL DERMIS				
TESTES	3.45	0.666	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYIMIDES	1.39	0.268		SUPERFICIAL DERMIS				
PROSTATE	0.92	0.178	NO SIGNIFICANT					
THYMUS	0.2200	0.042	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
ADRENAL GLANDS	0.0585	0.011		JOINT	BRAIN	CECUM	COLON	
PITUITARY	0.0179	0.003		DUODENUM	EPIDIDYIMIDES	ESOPHAGUS	EYES	
THYROIDS/PARATHY	0.0192	0.004		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
FINAL BODY WT(G)	518.			KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYIMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	

ANIMAL NO. 11028 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89

GRADE

PARATHYROIDSLN, AXILLARYTHYMUS SKIN, UNTREATEDTRACHEAURINARY BLADDER

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11045	GROUP	3: 100 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.24	0.438		LEFT VENTRICLE, INTERVENTRICULAR SEPTUM					
LIVER	12.86	2.512	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE					((1))
KIDNEYS	3.24	0.633	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
SPLEEN	0.90	0.176	LUNGS	MICRO: MACROPHAGES, ALVEOLAR					((1))
HEART	1.60	0.313	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
TESTES	3.40	0.664		SUPERFICIAL DERMIS					
EPIDIDYMIDES	1.45	0.283	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
PROSTATE	0.80	0.156		SUPERFICIAL DERMIS					
THYMUS	0.1428	0.028	NO SIGNIFICANT						
ADRENAL GLANDS	0.0665	0.013	CHANGES OBSERVED	GROSS:ADRENAL GLANDS					
PITUITARY	0.0143	0.003		JOINT	AORTA	STERNUM	FEMUR		
THYROIDS/PARATHY	0.0196	0.004		DUODENUM	BRAIN	CECUM	COLON		
FINAL BODY WT(G)	512.			NERVES, OPTIC	EPIDIDYMIDES	ESOPHAGUS	EYES		
				KIDNEYS	HEART	ILEUM	JEJUNUM		
				LN, MESENTERIC	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				PITUITARY	LUNGS	NERVE, SCIATIC	PANCREAS		
				SAL. GLAND MAND	PROSTATE	RECTUM	SPINAL CORD		
				SPLEEN	STOMACH	SKELETAL MUSCLE	SKIN		
				THYMUS	SEMINAL VESICLES	TESTES	THYROID GLANDS		
				SKIN, UNTREATED	TRACHEA	URINARY BLADDER	LN, AXILLARY		
				MICRO:ADRENAL CORTEX	SKIN, TREATED				
				MARROW, STERN	ADRENAL MEDULLA	AORTA	STERNUM		
				DUODENUM	BRAIN	CECUM	COLON		
				NERVES, OPTIC	EPIDIDYMIDES	ESOPHAGUS	EYES		
				LAC. GLAND EXOR	ILEUM	JEJUNUM	LN, MANDIBULAR		
				PITUITARY	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS		
				SAL. GLAND MAND	PROSTATE	RECTUM	SPINAL CORD		
				SPLEEN	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE		
					SEMINAL VESICLES	TESTES	THYROID GLANDS		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11045 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PARATHYROID LN, AXILLARY THYMUS SKIN, UNTREATED TRACHEA URINARY BLADDER
NOT PRESENT FOR EXAMINATION
MICRO:FEMUR MARROW, FEMUR JOINT

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11047	GROUP	3: 100 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.04	0.494		LEFT VENTRICLE, INTERVENTRICULAR SEPTUM					
LIVER	10.10	2.446	LIVER	GROSS: AREA(S), YELLOW					P
KIDNEYS	2.65	0.642		ONE, 1 MM IN DIAMETER, CAUDATE LOBE					
SPLEEN	0.66	0.160	^==>	LIVER: FIBROSIS, CAPSULAR					
HEART	1.40	0.339	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
TESTES	2.79	0.676		FIBROSIS, CAPSULAR					3
EPIDIDYMIDES	1.33	0.322		WITH CHRONIC ACTIVE INFLAMMATION AND EXTENSION INTO HEPATIC					
PROSTATE	0.98	0.237		PARENCHYMA WITH NECROSIS					
THYMUS	0.2040	0.049	PROSTATE	MICRO: INFLAMMATION, SUBACUTE					1
ADRENAL GLANDS	0.0705	0.017		DORSAL PROSTATE, INTERSTITIUM WITH NEUTROPHILS IN GLAND LUMEN					
PITUITARY	0.0135	0.003	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDS/PARATHY	0.0135	0.003		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	413.		PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
				ONE OF PAIR NOT IN THE PLANE OF SECTION					
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11047 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH	SKELETAL MUSCLE	SKIN	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC
PANCREAS	PITUITARY	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11048 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY				P
BRAIN	2.13	0.450		BRAIN				
LIVER	12.26	2.592	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
KIDNEYS	3.33	0.704		ONE OF PAIR NOT IN THE PLANE OF SECTION				
SPLEEN	0.87	0.184	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
HEART	1.39	0.294	LUNGS	MICRO: MACROPHAGES, ALVEOLAR				((1))
TESTES	3.34	0.706	STOMACH, GLAN	MICRO: DILATATION, GLANDULAR				1
EPIDIDYMIDES	1.41	0.298	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	1.10	0.233		SUPERFICIAL DERMIS				
THYMUS	0.3250	0.069	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				2
ADRENAL GLANDS	0.0677	0.014		SUPERFICIAL DERMIS				
PITUITARY	0.0153	0.003	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0173	0.004	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	473.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	NERVE, SCIATIC	

ANIMAL NO. 11048 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PANCREAS	PITUITARY	PROSTATE	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
SKIN, UNTREATED			

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11050 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.09	0.426	THYMUS	GROSS: AREA(S), DARK RED				P
LIVER	12.32	2.509		MULTIPLE, IRREGULARLY SHAPED				
KIDNEYS	3.57	0.727	^==>	THYMUS: HEMORRHAGE				
SPLEEN	1.03	0.210	THYMUS	MICRO: HEMORRHAGE				2
HEART	1.79	0.365	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.18	0.648		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.30	0.265	NO SIGNIFICANT					
PROSTATE	1.25	0.255	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYMUS	0.3067	0.062		JOINT	BRAIN	CECUM	COLON	
ADRENAL GLANDS	0.0763	0.016		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
PITUITARY	0.0152	0.003		NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
THYROIDS/PARATHY	0.0207	0.004		KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
FINAL BODY WT(G)	491.			LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	
				SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	
				PANCREAS	PITUITARY	PROSTATE	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	
				SKELETAL MUSCLE	SKIN	SPLEEN	SEMINAL VESICLES	
				TESTES	THYROID GLANDS	PARATHYROIDS	TRACHEA	
				URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11050 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

NOT PRESENT FOR EXAMINATION

MICRO:NERVES, OPTIC

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11054	GROUP	3: 100 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY					P
BRAIN	1.99	0.461		PROSTATE					
LIVER	12.20	2.824	HEART	MICRO: CARDIOMYOPATHY					((1))
KIDNEYS	2.89	0.669		LEFT AND RIGHT VENTRICLES					
SPLEEN	0.90	0.208	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
HEART	1.57	0.363		MINERALIZATION					(2)
TESTES	3.30	0.764		SUBCAPSULAR					
EPIDIDYMIDES	1.42	0.329	LUNGS	MICRO: INFILTRATE, MONONUCLEAR, SUBPLEURAL					((1))
PROSTATE	0.72	0.167	PITUITARY	MICRO: CYST, PARS DISTALIS					(P)
THYMUS	0.1487	0.034	PROSTATE	MICRO: INFLAMMATION, CHRONIC ACTIVE					(2)
ADRENAL GLANDS	0.0658	0.015		DORSAL PROSTATE, INTERSTITIUM WITH NEUTROPHILS IN GLAND LUMEN					
PITUITARY	0.0188	0.004	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDS/PARATHY	0.0197	0.005		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	432.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED						
				GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11054 GROUP 3: 100 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
SKIN, UNTREATED	SKIN, TREATED		
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES
TESTES	THYROID GLANDS	THYMUS	TRACHEA
URINARY BLADDER	LN, AXILLARY		

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDES

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11003	GROUP	4: 300	MG/KG/DAY	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART		MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.18	0.433			LEFT AND RIGHT VENTRICLES					
LIVER	14.24	2.831	KIDNEYS		MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE					((1))
KIDNEYS	3.43	0.682	LIVER		MICRO: INFILTRATE, MONONUCLEAR					((1))
SPLEEN	0.82	0.163	PITUITARY		MICRO: NO SIGNIFICANT CHANGES OBSERVED					
HEART	1.61	0.320			PARS NERVOSA NOT IN THE PLANE OF SECTION					
TESTES	3.68	0.732	PROSTATE		MICRO: INFILTRATE, MONONUCLEAR					1
EPIDIDYMIDES	1.36	0.270			VENTRAL PROSTATE					
PROSTATE	0.84	0.167	SKIN		MICRO: INFILTRATE, MONONUCLEAR					1
THYMUS	0.3018	0.060			SUPERFICIAL DERMIS					
ADRENAL GLANDS	0.0601	0.012	SKIN, UNTREATED		MICRO: INFILTRATE, MONONUCLEAR					1
PITUITARY	0.0139	0.003			SUPERFICIAL DERMIS					
THYROIDS/PARATHY	0.0300	0.006	SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR					1
FINAL BODY WT(G)	503.				SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED		GROSS:ADRENAL GLANDS		AORTA	STERNUM	FEMUR	
					JOINT		BRAIN	CECUM	COLON	
					DUODENUM		EPIDIDYMIDES	ESOPHAGUS	EYES	
					NERVES, OPTIC		HEART	ILEUM	JEJUNUM	
					KIDNEYS		LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
					LN, MESENTERIC		LUNGS	NERVE, SCIATIC	PANCREAS	
					PITUITARY		PROSTATE	RECTUM	SPINAL CORD	
					SAL. GLAND MAND		STOMACH	SKELETAL MUSCLE	SKIN	
					SPLEEN		SEMINAL VESICLES	TESTES	THYROID GLANDS	
					THYMUS		TRACHEA	URINARY BLADDER	LN, AXILLARY	
					SKIN, UNTREATED		SKIN, TREATED			

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11003 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROIDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11005 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	2.21	0.440		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	14.32	2.853	HEART	MICRO: CARDIOMYOPATHY			(1)
KIDNEYS	3.31	0.659		RIGHT ATRIUM			
SPLEEN	0.82	0.163	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
HEART	2.11	0.420	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
TESTES	3.36	0.669		SUPERFICIAL DERMIS			
EPIDIDYMIDES	1.25	0.249	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
PROSTATE	0.96	0.191		SUPERFICIAL DERMIS			
THYMUS	0.2513	0.050	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
ADRENAL GLANDS	0.0511	0.010		SUPERFICIAL DERMIS			
PITUITARY	0.0150	0.003	NO SIGNIFICANT				
THYROIDS/PARATHY	0.0175	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
FINAL BODY WT(G)	502.			JOINT	BRAIN	CECUM	COLON
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
				SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11005 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LAC. GLAND EXOR LN, MESENTERIC LUNGS NERVE, SCIATIC
PANCREAS PITUITARY PROSTATE RECTUM
SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SPLEEN SEMINAL VESICLES TESTES
THYROID GLANDS THYMUS TRACHEA URINARY BLADDER
LN, AXILLARY

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11007 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.05	0.412		APEX, LEFT AND RIGHT VENTRICLES				
LIVER	15.37	3.086	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.57	0.717	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.78	0.157	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.62	0.325		SUPERFICIAL DERMIS				
TESTES	3.42	0.687	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.24	0.249		SUPERFICIAL DERMIS				
PROSTATE	0.92	0.185	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.3539	0.071		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0584	0.012	NO SIGNIFICANT					
PITUITARY	0.0146	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0166	0.003		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	498.			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11007 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11008 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
BRAIN	2.11	0.443		ONE OF PAIR NOT IN THE PLANE OF SECTION	
LIVER	11.51	2.418	HEART	MICRO: CARDIOMYOPATHY	1
KIDNEYS	3.30	0.693		RIGHT VENTRICLE	
SPLEEN	0.90	0.189	ILEUM	GROSS: DIVERTICULUM	P
HEART	1.53	0.321		ONE, 22 X 7 X 7 MM	
TESTES	3.90	0.819	^==>	ILEUM: DIVERTICULUM	
EPIDIDYMIDES	1.32	0.277	ILEUM	MICRO: DIVERTICULUM	P
PROSTATE	1.10	0.231		DIVERTICULUM IS MICROSCOPICALLY NORMAL	
THYMUS	0.2583	0.054	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
ADRENAL GLANDS	0.0681	0.014	PROSTATE	MICRO: EXUDATE, INFLAMMATORY	(1)
PITUITARY	0.0148	0.003		DORSAL PROSTATE, LUMENS	
THYROIDS/PARATHY	0.0242	0.005	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
FINAL BODY WT(G)	476.			SUPERFICIAL DERMIS	
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	AORTA
				DUODENUM	BRAIN
				NERVES, OPTIC	EPIDIDYMIDES
				LN, MANDIBULAR	HEART
				LUNGS	LAC. GLAND EXOR
					NERVE, SCIATIC
					STERNUM
					CECUM
					ESOPHAGUS
					JEJUNUM
					LIVER
					PANCREAS
					FEMUR
					COLON
					EYES
					KIDNEYS
					LN, MESENTERIC
					PITUITARY

ANIMAL NO.	11008	GROUP	4: 300 MG/KG/DAY	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89
								GRADE

PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH	SKELETAL MUSCLE	SKIN	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROIDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
 ()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
 ^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11017 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.11	0.470		LEFT AND RIGHT VENTRICLES, INTERVENTRICULAR SEPTUM				
LIVER	11.60	2.584	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	3.13	0.697	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.82	0.183	STOMACH	GROSS: CONTENTS, YELLOW				P
HEART	1.53	0.341	^==> GROSS	UNCONFIRMED				
TESTES	3.81	0.849	SKELETAL MUSCLE	MICRO: DEGENERATION, MUSCLE				((1))
EPIDIDYMIDES	1.42	0.316	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	1.16	0.258		SUPERFICIAL DERMIS				
THYMUS	0.2192	0.049	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0662	0.015		SUPERFICIAL DERMIS				
PITUITARY	0.0149	0.003	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYROIDS/PARATHY	0.0170	0.004		SUPERFICIAL DERMIS				
FINAL BODY WT(G)	449.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	SKELETAL MUSCLE	SKIN	SPLEEN	
				SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED	
				SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11017 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

EPIDIDYMIDES ESOPHAGUS EYES NERVES, OPTIC
ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LN, MESENTERIC LUNGS NERVE, SCIATIC PANCREAS
PITUITARY PROSTATE RECTUM SPINAL CORD
SAL. GLAND MAND STOMACH, GLAN STOMACH, NON SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11018	GROUP	4: 300 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.06	0.440		APEX, LEFT VENTRICLE					
LIVER	12.47	2.665	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
KIDNEYS	3.34	0.714	LUNGS	MICRO: MACROPHAGES, ALVEOLAR					((1))
SPLEEN	0.79	0.169	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR					2
HEART	1.49	0.318		VENTRAL PROSTATE					
TESTES	3.49	0.746	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
EPIDIDYMIDES	1.18	0.252		SUPERFICIAL DERMIS					
PROSTATE	0.72	0.154	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
THYMUS	0.2359	0.050		SUPERFICIAL DERMIS					
ADRENAL GLANDS	0.0674	0.014	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
PITUITARY	0.0160	0.003		SUPERFICIAL DERMIS					
THYROIDS/PARATHY	0.0176	0.004	NO SIGNIFICANT						
FINAL BODY WT(G)	468.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS		
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY		
				SKIN, UNTREATED	SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM		
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT		
				BRAIN	CECUM	COLON	DUODENUM		

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11018 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

EPIDIDYMIDES ESOPHAGUS EYES NERVES, OPTIC
ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LAC. GLAND EXOR LN, MESENTERIC NERVE, SCIATIC PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
SEMINAL VESICLES TESTES THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11027 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
BRAIN	2.27	0.485	LN, MANDIBULAR	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
LIVER	11.98	2.560		ONE OF PAIR NOT IN THE PLANE OF SECTION				
KIDNEYS	3.16	0.675	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((2))
SPLEEN	0.71	0.152	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.63	0.348		SUPERFICIAL DERMIS				
TESTES	3.67	0.784	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				2
EPIDIDYMIDES	1.27	0.271		SUPERFICIAL DERMIS				
PROSTATE	1.01	0.216		INFILTRATE, HISTIOCYTE				(1)
THYMUS	0.1713	0.037		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0592	0.013	NO SIGNIFICANT					
PITUITARY	0.0143	0.003	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0186	0.004		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	468.			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11027 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PANCREAS PITUITARY PROSTATE RECTUM
SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SPLEEN SEMINAL VESICLES TESTES
THYROID GLANDS PARATHYROIDS THYMUS TRACHEA
URINARY BLADDER LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11031	GROUP	4: 300 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.07	0.420		LEFT AND RIGHT VENTRICLES					
LIVER	12.86	2.609	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE					((1))
KIDNEYS	3.31	0.671	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR					(1)
SPLEEN	0.78	0.158	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
HEART	1.65	0.335	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
TESTES	3.56	0.722		SUPERFICIAL DERMIS					
EPIDIDYIMIDES	1.36	0.276	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
PROSTATE	1.33	0.270		ONE OF PAIR NOT IN THE PLANE OF SECTION					
THYMUS	0.2232	0.045	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
ADRENAL GLANDS	0.0637	0.013		SUPERFICIAL DERMIS					
PITUITARY	0.0152	0.003	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDES/PARATHY	0.0129	0.003		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	493.		NO SIGNIFICANT CHANGES OBSERVED						
				GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYIMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS		
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY		
				SKIN, UNTREATED	SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM		
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT		

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11031 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	LN, MANDIBULAR	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROIDS
THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11038 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.10	0.443	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
LIVER	12.48	2.633		PARS NERVOSA NOT IN THE PLANE OF SECTION				
KIDNEYS	3.31	0.698	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.74	0.156		SUPERFICIAL DERMIS				
HEART	1.39	0.293	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
TESTES	3.99	0.842		SUPERFICIAL DERMIS				
EPIDIDYMIDES	1.37	0.289	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PROSTATE	0.95	0.200		SUPERFICIAL DERMIS				
THYMUS	0.1736	0.037	NO SIGNIFICANT					
ADRENAL GLANDS	0.0554	0.012	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
PITUITARY	0.0141	0.003		JOINT	BRAIN	CECUM	COLON	
THYROIDS/PARATHY	0.0170	0.004		DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
FINAL BODY WT(G)	474.			NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	
				NERVE, SCIATIC	PANCREAS	PITUITARY	PROSTATE	

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11038 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN SEMINAL VESICLES
TESTES THYROID GLANDS PARATHYROIDS THYMUS
TRACHEA URINARY BLADDER LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11043	GROUP	4: 300 MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90
								GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART		MICRO: CARDIOMYOPATHY			((1))
BRAIN	2.10	0.407			LEFT AND RIGHT VENTRICLES, INTERVENTRICULAR SEPTUM			
LIVER	12.58	2.438	ILEUM		MICRO: ABSCESS, CRYPTS			1
KIDNEYS	3.05	0.591			OVERLYING PEYER'S PATCH			
SPLEEN	0.71	0.138	KIDNEYS		GROSS: AREA(S), DEPRESSED			P
HEART	1.63	0.316			ONE, 1 MM IN DIAMETER, IN CORTEX, LEFT			
TESTES	3.57	0.692	^==>	GROSS	UNCONFIRMED			
EPIDIDYMIDES	1.30	0.252	LIVER		MICRO: INFILTRATE, MONONUCLEAR			((1))
PROSTATE	1.29	0.250	PITUITARY		MICRO: NO SIGNIFICANT CHANGES OBSERVED			
THYMUS	0.1572	0.030			PARS INTERMEDIA AND PARS NERVOSA NOT IN THE PLANE OF SECTION			(1)
ADRENAL GLANDS	0.0611	0.012	PROSTATE		MICRO: EXUDATE, INFLAMMATORY			
PITUITARY	0.0151	0.003			DORSAL PROSTATE, LUMENS			
THYROIDS/PARATHY	0.0234	0.005	SKIN		MICRO: INFILTRATE, MONONUCLEAR			1
FINAL BODY WT(G)	516.				SUPERFICIAL DERMIS			
			SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR			1
					SUPERFICIAL DERMIS			
			NO SIGNIFICANT					
			CHANGES OBSERVED	GROSS:	ADRENAL GLANDS	AORTA	STERNUM	FEMUR
					JOINT	BRAIN	CECUM	COLON
					DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
					NERVES, OPTIC	HEART	ILEUM	JEJUNUM
					LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
					LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
					PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
					STOMACH	SKELETAL MUSCLE	SKIN	SPLEEN
					SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11043 GROUP 4: 300 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11024	GROUP	5: 600 MG/KG/DAY	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY					((1))
BRAIN	2.01	0.470		LEFT VENTRICLE, INTERVENTRICULAR SEPTUM					
LIVER	12.64	2.953	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
KIDNEYS	3.25	0.759		NECROSIS, COAGULATIVE					(1)
SPLEEN	0.67	0.157	LUNGS	MICRO: MACROPHAGES, ALVEOLAR					((1))
HEART	1.43	0.334		WITH ERYTHROPHAGOCYTOSIS OR BROWN PIGMENT					
TESTES	3.22	0.752	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
EPIDIDYMIDES	1.27	0.297		SUPERFICIAL DERMIS					
PROSTATE	1.13	0.264	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
THYMUS	0.1927	0.045		SUPERFICIAL DERMIS					
ADRENAL GLANDS	0.0449	0.010	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
PITUITARY	0.0135	0.003		SUPERFICIAL DERMIS					
THYROIDS/PARATHY	0.0286	0.007	NO SIGNIFICANT						
FINAL BODY WT(G)	428.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS		
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY		
				SKIN, UNTREATED	SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM		
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT		
				BRAIN	CECUM	COLON	DUODENUM		

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11024 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS
PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11030 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
BRAIN	2.04	0.467	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
LIVER	11.83	2.707	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
KIDNEYS	3.04	0.696		SUPERFICIAL DERMIS				
SPLEEN	0.80	0.183	TESTES	MICRO: ATROPHY, SEMINIFEROUS TUBULES				(1)
HEART	1.57	0.359		UNILATERAL, SMALL AGGREGATE				
TESTES	3.46	0.792	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
EPIDIDYMIDES	1.49	0.341		SUPERFICIAL DERMIS				
PROSTATE	1.08	0.247	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2131	0.049		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0759	0.017	NO SIGNIFICANT					
PITUITARY	0.0166	0.004	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0156	0.004		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	437.			DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
				SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	NERVE, SCIATIC	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11030 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

PANCREAS	PITUITARY	PROSTATE	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON
SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11034 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY	((1))
BRAIN	2.00	0.449		LEFT AND RIGHT VENTRICLES	
LIVER	12.32	2.769	KIDNEYS	GROSS: AREA(S), DEPRESSED	P
KIDNEYS	3.25	0.730		FEW, PINPOINT, IN CORTEX, BILATERAL	
SPLEEN	0.78	0.175	^==> GROSS	UNCONFIRMED	
HEART	1.49	0.335	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
TESTES	3.77	0.847		WITH FOCAL TUBULAR DILATATION	
EPIDIDYMIDES	1.31	0.294	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR	((1))
PROSTATE	0.98	0.220	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
THYMUS	0.2007	0.045	PROSTATE	MICRO: FIBROSIS, INTERSTITIAL	(2)
ADRENAL GLANDS	0.0689	0.015		WITH MINIMAL CHRONIC ACTIVE INFLAMMATION AND GLAND	
PITUITARY	0.0157	0.004		REGENERATION, DORSAL PROSTATE	
THYROIDS/PARATHY	0.0214	0.005	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
FINAL BODY WT(G)	445.			SUPERFICIAL DERMIS	
			PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
				ONE OF PAIR NOT IN THE PLANE OF SECTION	
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				AORTA	
				BRAIN	
				EPIDIDYMIDES	
				STERNUM	
				CECUM	
				ESOPHAGUS	
				FEMUR	
				COLON	
				EYES	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11034 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

NERVES, OPTIC	HEART	ILEUM	JEJUNUM
LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
PROSTATE	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH	SKELETAL MUSCLE	SKIN	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	LN, MANDIBULAR	LN, MESENTERIC
LUNGS	NERVE, SCIATIC	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES
TESTES	THYROID GLANDS	PARATHYROID	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11035 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY			((1))
BRAIN	2.07	0.511		LEFT ATRIUM, PAPILLARY MUSCLE, RIGHT VENTRICLE			
LIVER	12.21	3.015	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE			((1))
KIDNEYS	2.73	0.674	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
SPLEEN	0.54	0.133	LUNGS	MICRO: MACROPHAGES, ALVEOLAR			(1)
HEART	1.46	0.360		INFILTRATE, MONONUCLEAR, SUBPLEURAL			((1))
TESTES	3.47	0.857	PANCREAS	MICRO: FIBROSIS, INTERSTITIAL			1
EPIDIDYMIDES	1.33	0.328		WITH MINIMAL CHRONIC INFLAMMATION AND ACINAR ATROPHY, FOCAL			
PROSTATE	0.59	0.146	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
THYMUS	0.1455	0.036		SUPERFICIAL DERMIS			
ADRENAL GLANDS	0.0573	0.014	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
PITUITARY	0.0100	0.002		SUPERFICIAL DERMIS			
THYROIDS/PARATHY	0.0147	0.004	NO SIGNIFICANT				
FINAL BODY WT(G)	405.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
				SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11035 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ILEUM JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC NERVE, SCIATIC PITUITARY PROSTATE
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN SEMINAL VESICLES
TESTES THYROID GLANDS PARATHYROIDS THYMUS
TRACHEA URINARY BLADDER LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11004	GROUP	5: 600 MG/KG/DAY	MALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	CECUM	MICRO: INFILTRATE, MONONUCLEAR					2
BRAIN	2.13	0.446		WITH MULTIFOCAL MINIMAL HEMORRHAGE					
LIVER	12.89	2.697	HEART	MICRO: CARDIOMYOPATHY					((1))
KIDNEYS	3.45	0.722		LEFT ATRIUM, LEFT AND RIGHT VENTRICLES, APEX					
SPLEEN	0.83	0.174	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE					((1))
HEART	1.45	0.303	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
TESTES	3.63	0.759	NERVE, SCIATIC	MICRO: INFILTRATE, MONONUCLEAR					((1))
EPIDIDYMIDES	1.39	0.291	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
PROSTATE	0.83	0.174		SUPERFICIAL DERMIS					
THYMUS	0.2999	0.063	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
ADRENAL GLANDS	0.0492	0.010		SUPERFICIAL DERMIS					
PITUITARY	0.0153	0.003	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDS/PARATHY	0.0178	0.004		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	478.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES		
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM		
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER		
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS		
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS		
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY		
				SKIN, UNTREATED	SKIN, TREATED				
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM		
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT		

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11004 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

BRAIN	COLON	DUODENUM	EPIDIDYMIDES
ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM
JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC
LUNGS	PANCREAS	PITUITARY	PROSTATE
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	SEMINAL VESICLES
TESTES	THYROID GLANDS	PARATHYROIDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11042 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
BRAIN	2.18	0.469	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
LIVER	11.22	2.413	LUNGS	MICRO: MACROPHAGES, ALVEOLAR	(1)
KIDNEYS	3.60	0.774		WITH BROWN PIGMENT	
SPLEEN	0.79	0.170	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR	1
HEART	1.54	0.331		VENTRAL PROSTATE	
TESTES	3.62	0.778	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
EPIDIDYMIDES	1.38	0.297		SUPERFICIAL DERMIS	
PROSTATE	1.04	0.224	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
THYMUS	0.2509	0.054		ONE OF PAIR NOT IN THE PLANE OF SECTION	
ADRENAL GLANDS	0.0648	0.014	THYMUS	MICRO: HEMORRHAGE	((1))
PITUITARY	0.0159	0.003	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
THYROIDS/PARATHY	0.0304	0.007		SUPERFICIAL DERMIS	
FINAL BODY WT(G)	465.		SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	AORTA
				DUODENUM	BRAIN
				NERVES, OPTIC	EPIDIDYMIDES
				KIDNEYS	HEART
				LN, MESENTERIC	LN, MANDIBULAR
				PITUITARY	LUNGS
				SAL. GLAND MAND	PROSTATE
				SPLEEN	STOMACH
				THYMUS	SEMINAL VESICLES
					TRACHEA
					STERNUM
					CECUM
					ESOPHAGUS
					ILEUM
					LAC. GLAND EXOR
					NERVE, SCIATIC
					RECTUM
					SKELETAL MUSCLE
					TESTES
					URINARY BLADDER
					FEMUR
					COLON
					EYES
					JEJUNUM
					LIVER
					PANCREAS
					SPINAL CORD
					SKIN
					THYROID GLANDS
					LN, AXILLARY

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11042 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SKIN, UNTREATED	SKIN, TREATED		
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
HEART	ILEUM	JEJUNUM	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	PARATHYROIDS
TRACHEA	URINARY BLADDER	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11049 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
BRAIN	2.05	0.408		ONE OF PAIR NOT IN THE PLANE OF SECTION	
LIVER	14.66	2.915	HEART	MICRO: CARDIOMYOPATHY	((1))
KIDNEYS	3.53	0.702		APEX, INTERVENTRICULAR SEPTUM	
SPLEEN	0.78	0.155	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
HEART	1.56	0.310	LUNGS	MICRO: MACROPHAGES, ALVEOLAR	((1))
TESTES	3.36	0.668	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
EPIDIDYMIDES	1.30	0.258		PARS NERVOSA NOT IN THE PLANE OF SECTION	
PROSTATE	0.82	0.163	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
THYMUS	0.2250	0.045		SUPERFICIAL DERMIS	
ADRENAL GLANDS	0.0547	0.011	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
PITUITARY	0.0167	0.003		ONE OF PAIR NOT IN THE PLANE OF SECTION	
THYROIDES/PARATHY	0.0150	0.003	THYMUS	GROSS: AREA(S), DARK RED	P
FINAL BODY WT(G)	503.			MULTIPLE, PINPOINT	
			^==>	THYMUS: HEMORRHAGE	
			THYMUS	MICRO: HEMORRHAGE	((1))
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	AORTA
				DUODENUM	BRAIN
				NERVES, OPTIC	EPIDIDYMIDES
				KIDNEYS	HEART
				LN, MESENTERIC	LN, MANDIBULAR
				PITUITARY	LUNGS
					PROSTATE
					STERNUM
					CECUM
					ESOPHAGUS
					ILEUM
					LAC. GLAND EXOR
					NERVE, SCIATIC
					RECTUM
					FEMUR
					COLON
					EYES
					JEJUNUM
					LIVER
					PANCREAS
					SPINAL CORD

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11049 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED
SKIN, TREATED			
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	NERVE, SCIATIC	PANCREAS
PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	TRACHEA	URINARY BLADDER	LN, AXILLARY
SKIN, UNTREATED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11058	GROUP	5: 600	MG/KG/DAY	MALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	HEART			MICRO: CARDIOMYOPATHY				((1))
BRAIN	2.00	0.437				APEX, LEFT VENTRICLE				
LIVER	12.17	2.657	KIDNEYS			MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	3.42	0.747	LIVER			MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.56	0.122	SKIN			MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.65	0.360				SUPERFICIAL DERMIS				
TESTES	2.99	0.653	SKIN, UNTREATED			MICRO: INFILTRATE, MONONUCLEAR				(1)
EPIDIDYMIDES	1.13	0.247				SUPERFICIAL DERMIS				
PROSTATE	1.23	0.269	SKIN, TREATED			MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2454	0.054				SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0579	0.013	NO SIGNIFICANT							
PITUITARY	0.0121	0.003	CHANGES OBSERVED			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0203	0.004				JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	458.					DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES	
						NERVES, OPTIC	HEART	ILEUM	JEJUNUM	
						KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	
						LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	
						PITUITARY	PROSTATE	RECTUM	SPINAL CORD	
						SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
						SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS	
						THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY	
						SKIN, UNTREATED	SKIN, TREATED			
						MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
						MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
						BRAIN	CECUM	COLON	DUODENUM	
						EPIDIDYMIDES	ESOPHAGUS	EYES	NERVES, OPTIC	
						ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
						LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS	

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ANIMAL NO. 11058 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PITUITARY	PROSTATE	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11059 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	ADRENAL CORTEX	MICRO: HYPERTROPHY			(2)
BRAIN	2.11	0.425		ZONA FASCICULATA			
LIVER	14.08	2.839	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE			((1))
KIDNEYS	3.69	0.744	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
SPLEEN	1.09	0.220	PROSTATE	MICRO: INFILTRATE, MONONUCLEAR			2
HEART	1.62	0.327		VENTRAL PROSTATE			
TESTES	3.70	0.746	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
EPIDIDYMIDES	1.43	0.288		SUPERFICIAL DERMIS			
PROSTATE	1.00	0.202	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
THYMUS	0.3527	0.071		SUPERFICIAL DERMIS			
ADRENAL GLANDS	0.0725	0.015	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			2
PITUITARY	0.0147	0.003		SUPERFICIAL DERMIS AND FOCALLY SURROUNDING VESSELS IN DEEP			
THYROIDS/PARATHY	0.0160	0.003		DERMIS			
FINAL BODY WT(G)	496.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	EPIDIDYMIDES	ESOPHAGUS	EYES
				NERVES, OPTIC	HEART	ILEUM	JEJUNUM
				KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LIVER
				LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
				PITUITARY	PROSTATE	RECTUM	SPINAL CORD
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN
				SPLEEN	SEMINAL VESICLES	TESTES	THYROID GLANDS
				THYMUS	TRACHEA	URINARY BLADDER	LN, AXILLARY
				SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL MEDULLA	AORTA	STERNUM	MARROW, STERN

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ANIMAL NO. 11059 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

FEMUR	MARROW, FEMUR	JOINT	BRAIN
CECUM	COLON	DUODENUM	EPIDIDYMIDES
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	NERVE, SCIATIC	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
SEMINAL VESICLES	TESTES	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11060 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	EPIDIDYIMIDES	GROSS: SMALL	P
BRAIN	2.13	0.477	^==> EPIDIDYIMIDES	ASPERMIA	
LIVER	11.79	2.638	EPIDIDYIMIDES	GROSS: ABSENT	P
KIDNEYS	3.23	0.723		CAUDA, RIGHT	
SPLEEN	0.72	0.161	^==> EPIDIDYIMIDES	ASPERMIA	
HEART	1.43	0.320	EPIDIDYIMIDES	MICRO: ASPERMIA	P
TESTES	1.70	0.380		UNILATERAL, CAUDA NOT IN THE PLANE OF SECTION	
EPIDIDYIMIDES	0.65	0.145	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
PROSTATE	1.02	0.228	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((2))
THYMUS	0.1811	0.041		FOCUS, BASOPHILIC CELL	(1)
ADRENAL GLANDS	0.0616	0.014	PITUITARY	MICRO: CYST, PARS DISTALIS	(P)
PITUITARY	0.0117	0.003		PARS NERVOSA NOT IN THE PLANE OF SECTION	
THYROIDS/PARATHY	0.0191	0.004	SKIN	GROSS: HAIR LOSS	P
FINAL BODY WT(G)	447.			DORSAL NECK; CEO HAIR LOSS	
			^==>	SKIN: INFLAMMATION, CHRONIC ACTIVE	
			SKIN	MICRO: INFLAMMATION, CHRONIC ACTIVE	3
				PERIFOLLICULAR WITH FIBROPLASIA OR FOLLICLE DEGENERATION.	
				FOCAL EXTENSION INTO PANNICULUS MUSCLE WITH MUSCLE	
				DEGENERATION AND PIGMENTED MACROPHAGES.	
			TESTES	GROSS: SMALL	P
				RIGHT	
			^==>	TESTES: ATROPHY, SEMINIFEROUS TUBULES	
			TESTES	MICRO: ATROPHY, SEMINIFEROUS TUBULES	4
				UNILATERAL, OTHER TESTES WITHIN NORMAL LIMITS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
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ANIMAL NO. 11060 GROUP 5: 600 MG/KG/DAY MALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

NO SIGNIFICANT
CHANGES OBSERVED

GROSS:ADRENAL GLANDS

JOINT

DUODENUM

HEART

LN, MANDIBULAR

LUNGS

PROSTATE

STOMACH

THYROID GLANDS

LN, AXILLARY

MICRO:ADRENAL CORTEX

MARROW, STERN

BRAIN

ESOPHAGUS

ILEUM

LN, MESENTERIC

PROSTATE

STOMACH, GLAN

SEMINAL VESICLES

TRACHEA

AORTA

BRAIN

ESOPHAGUS

ILEUM

LAC. GLAND EXOR

NERVE, SCIATIC

RECTUM

SKELETAL MUSCLE

THYMUS

SKIN, UNTREATED

ADRENAL MEDULLA

FEMUR

CECUM

EYES

JEJUNUM

LUNGS

RECTUM

STOMACH, NON

THYROID GLANDS

URINARY BLADDER

STERNUM

CECUM

EYES

JEJUNUM

LIVER

PANCREAS

SPINAL CORD

SPLEEN

TRACHEA

SKIN, TREATED

AORTA

MARROW, FEMUR

COLON

NERVES, OPTIC

LN, MANDIBULAR

NERVE, SCIATIC

SPINAL CORD

SKELETAL MUSCLE

PARATHYROID

LN, AXILLARY

FEMUR

COLON

NERVES, OPTIC

KIDNEYS

LN, MESENTERIC

PITUITARY

SAL. GLAND MAND

SEMINAL VESICLES

URINARY BLADDER

STERNUM

JOINT

DUODENUM

HEART

LAC. GLAND EXOR

PANCREAS

SAL. GLAND MAND

SPLEEN

THYMUS

SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11069 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: MINERALIZATION				1
BRAIN	1.96	0.705		JUNCTION OF INNER AND OUTER MEDULLA				
LIVER	7.52	2.705	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	2.01	0.723	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.52	0.187		SUPERFICIAL DERMIS				
HEART	1.09	0.392	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.57	0.205	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2194	0.079		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1486	0.053	NO SIGNIFICANT					
ADRENAL GLANDS	0.0525	0.019	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
PITUITARY	0.0191	0.007		JOINT	BRAIN	CECUM	COLON	
THYROIDS/PARATHY	0.0155	0.006		DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
FINAL BODY WT(G)	278.			HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	
				OVIDUCTS	OVARIES	PANCREAS	PITUITARY	
				RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	
				STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS	

ANIMAL NO. 11069 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89

GRADE

PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11082 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
BRAIN	1.96	0.723	OVARIES	MICRO: DECREASED CORPORA LUTEA	3
LIVER	8.19	3.022	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
KIDNEYS	2.03	0.749		PARS INTERMEDIA AND PARS NERVOSA NOT IN THE PLANE OF SECTION	
SPLEEN	0.65	0.240	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
HEART	1.17	0.432		ONE OF PAIR NOT IN THE PLANE OF SECTION	
UTERUS	0.51	0.188	UTERUS	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
THYMUS	0.2585	0.095		OCCASIONAL SINGLE CELL NECROSIS IN COLUMNAR ENDOMETRIUM	
OVARIES/OVIDUCTS	0.0897	0.033	VAGINA	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM	2
ADRENAL GLANDS	0.0808	0.030		CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE	
PITUITARY	0.0235	0.009	CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM	2
THYROIDS/PARATHY	0.0179	0.007		CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE	
FINAL BODY WT(G)	271.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT		
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	AORTA
				DUODENUM	BRAIN
				HEART	ESOPHAGUS
				LN, MANDIBULAR	ILEUM
				LUNGS	LAC. GLAND EXOR
				OVARIES	MAMMARY GLAND
				SPINAL CORD	PANCREAS
					SAL. GLAND MAND
					STERNUM
					CECUM
					EYES
					JEJUNUM
					LIVER
					NERVE, SCIATIC
					PITUITARY
					STOMACH
					FEMUR
					COLON
					NERVES, OPTIC
					KIDNEYS
					LN, MESENTERIC
					OVIDUCTS
					RECTUM
					SKELETAL MUSCLE

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11082 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SKIN	SPLEEN	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND
NERVE, SCIATIC	OVIDUCTS	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SKIN	SPLEEN
THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA
URINARY BLADDER	UTERUS	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11088	GROUP	1:	UNTREATED	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		HEART		MICRO: CARDIOMYOPATHY				((1))
BRAIN	1.73	0.609				APEX, RIGHT VENTRICLE				
LIVER	7.26	2.556		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	1.77	0.623		PARATHYROID		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
SPLEEN	0.43	0.151				ONE OF PAIR NOT IN THE PLANE OF SECTION				
HEART	0.88	0.310		UTERUS		GROSS: CONTENTS, CLEAR FLUID				P
UTERUS	0.82	0.289				BOTH HORNS				
THYMUS	0.2191	0.077		^==>		UTERUS: DILATATION, LUMEN				
OVARIES/OVIDUCTS	0.1142	0.040		^==>		VAGINA: ESTROUS CYCLE: PROESTRUS				
ADRENAL GLANDS	0.0549	0.019		UTERUS		MICRO: DILATATION, LUMEN				2
PITUITARY	0.0201	0.007		VAGINA		MICRO: ESTROUS CYCLE: PROESTRUS				P
THYROID/PARATHY	0.0113	0.004		SKIN, UNTREATED		MICRO: INFILTRATE, MONONUCLEAR				1
FINAL BODY WT(G)	284.					SUPERFICIAL DERMIS				
				NO SIGNIFICANT CHANGES OBSERVED		GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
						HEART	ILEUM	JEJUNUM	KIDNEYS	
						LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
						LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
						OVARIES	PANCREAS	PITUITARY	RECTUM	
						SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
						SKIN	SPLEEN	THYROID GLANDS	THYMUS	
						TRACHEA	URINARY BLADDER	VAGINA	CERVIX	
						LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED		
						MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
						MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
						BRAIN	CECUM	COLON	DUODENUM	
						ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11088 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SKIN	SPLEEN
THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA
URINARY BLADDER	CERVIX	LN, AXILLARY	SKIN, TREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11089 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	PANCREAS	MICRO: INFILTRATE, MONONUCLEAR	(2)
BRAIN	1.98	0.653	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
LIVER	7.65	2.525		SUPERFICIAL DERMIS	
KIDNEYS	1.96	0.647	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
SPLEEN	0.74	0.244		ONE OF PAIR NOT IN THE PLANE OF SECTION	
HEART	1.26	0.416	UTERUS	GROSS: CONTENTS, CLEAR FLUID	P
UTERUS	0.89	0.294		BOTH HORNS	
THYMUS	0.2743	0.091	^==>	UTERUS: DILATATION, LUMEN	
OVARIES/OVIDUCTS	0.1679	0.055	^==>	VAGINA: ESTROUS CYCLE: PROESTRUS	
ADRENAL GLANDS	0.0754	0.025	UTERUS	MICRO: DILATATION, LUMEN	1
PITUITARY	0.0237	0.008	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS	P
THYROIDES/PARATHY	0.0169	0.006	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
FINAL BODY WT(G)	303.			SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
				INFILTRATE, HISTIOCYTE	((1))
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				OVARIES	
				SPINAL CORD	
				SKIN	
				AORTA	
				BRAIN	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				MAMMARY GLAND	
				PANCREAS	
				SAL. GLAND MAND	
				SPLEEN	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVE, SCIATIC	
				PITUITARY	
				STOMACH	
				THYROID GLANDS	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				KIDNEYS	
				LN, MESENTERIC	
				OVIDUCTS	
				RECTUM	
				SKELETAL MUSCLE	
				THYMUS	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11089 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

TRACHEA	URINARY BLADDER	VAGINA	CERVIX
LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LIVER	LN, MESENTERIC	LUNGS
MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	OVARIES
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA
URINARY BLADDER	CERVIX	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11090	GROUP	1:	UNTREATED	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		KIDNEYS		MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
BRAIN	2.06	0.757				MINERALIZATION				((1))
LIVER	7.19	2.643				JUNCTION OF INNER AND OUTER MEDULLA				
KIDNEYS	1.84	0.676		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((2))
SPLEEN	0.52	0.191		PANCREAS		MICRO: INFILTRATE, MONONUCLEAR				(1)
HEART	1.10	0.404		PITUITARY		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
UTERUS	0.71	0.261				PARS NERVOSA NOT IN THE PLANE OF SECTION				
THYMUS	0.2637	0.097		SKIN		MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.1263	0.046				SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0666	0.024		UTERUS		MICRO: DILATATION, LUMEN				1
PITUITARY	0.0203	0.007		VAGINA		MICRO: ESTROUS CYCLE: PROESTRUS				P
THYROIDS/PARATHY	0.0166	0.006		SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR				1
FINAL BODY WT(G)	272.					SUPERFICIAL DERMIS				
				NO SIGNIFICANT CHANGES OBSERVED		GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
						HEART	ILEUM	JEJUNUM	KIDNEYS	
						LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
						LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
						OVARIES	PANCREAS	PITUITARY	RECTUM	
						SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
						SKIN	SPLEEN	THYROID GLANDS	THYMUS	
						TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
						CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
						MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
						MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
						BRAIN	CECUM	COLON	DUODENUM	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11090 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ESOPHAGUS EYES NERVES, OPTIC HEART
ILEUM JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PITUITARY RECTUM
SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SPLEEN THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER CERVIX
LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11091	GROUP	1:	UNTREATED	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((2))
BRAIN	1.92	0.681				HYPERPLASIA, BILE DUCT				1
LIVER	8.06	2.858		OVARIES		GROSS: CYST(S)				P
KIDNEYS	2.07	0.734				ONE, 10 MM IN DIAMETER, LEFT				
SPLEEN	0.62	0.220		^==>	GROSS	UNCONFIRMED				
HEART	1.03	0.365		OVARIES		MICRO: DECREASED CORPORA LUTEA				4
UTERUS	0.82	0.291				WITH LARGE TERTIARY FOLLICLES				
THYMUS	0.2677	0.095		PANCREAS		MICRO: FIBROSIS, INTERSTITIAL				(2)
OVARIES/OVIDUCTS	0.0831	0.029				WITH MINIMAL CHRONIC INFLAMMATION AND ACINAR ATROPHY, FOCAL				
ADRENAL GLANDS	0.0767	0.027		SKIN		MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0293	0.010				SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0151	0.005				INFILTRATE, HISTIOCYTE				(1)
FINAL BODY WT(G)	282.					SUPERFICIAL DERMIS				
				PARATHYROIDS		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
						ONE OF PAIR NOT IN THE PLANE OF SECTION				
				THYMUS		GROSS: AREA(S), DARK RED				P
						MULTIPLE, PINPOINT				
				^==>	THYMUS	HEMORRHAGE				
				THYMUS		MICRO: HEMORRHAGE				((2))
				TRACHEA		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
						EPITHELIUM ARTIFACTUALLY SLOUGHED				
				UTERUS		MICRO: NO SIGNIFICANT CHANGES OBSERVED				
						OCCASIONAL SINGLE CELL NECROSIS IN COLUMNAR ENDOMETRIUM				
				VAGINA		MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM				2
						CONSISTENT WITH PERSISTENT ESTRUS, SENESENCE				

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11091 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM	2
	CONSISTENT WITH PERSISTENT ESTRUS, SENESENCE	
SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
	SUPERFICIAL DERMIS	
SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
	SUPERFICIAL DERMIS	
	INFILTRATE, HISTIOCYTE	((1))
	SUPERFICIAL DERMIS	
NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
	JOINT	
	DUODENUM	
	HEART	
	LN, MANDIBULAR	
	LUNGS	
	PANCREAS	
	SAL. GLAND MAND	
	SPLEEN	
	UTERUS	
	SKIN, UNTREATED	
	MICRO:ADRENAL CORTEX	
	MARROW, STERN	
	BRAIN	
	ESOPHAGUS	
	ILEUM	
	LAC. GLAND EXOR	
	NERVE, SCIATIC	
	SPINAL CORD	
	AORTA	
	BRAIN	
	ESOPHAGUS	
	ILEUM	
	LAC. GLAND EXOR	
	MAMMARY GLAND	
	PITUITARY	
	STOMACH	
	THYROID GLANDS	
	VAGINA	
	SKIN, TREATED	
	ADRENAL MEDULLA	
	FEMUR	
	CECUM	
	EYES	
	JEJUNUM	
	LN, MESENTERIC	
	OVIDUCTS	
	SAL. GLAND MAND	
	STERNUM	
	CECUM	
	EYES	
	JEJUNUM	
	LIVER	
	NERVE, SCIATIC	
	RECTUM	
	SKELETAL MUSCLE	
	TRACHEA	
	CERVIX	
	FEMUR	
	COLON	
	NERVES, OPTIC	
	KIDNEYS	
	LN, MESENTERIC	
	OVIDUCTS	
	SPINAL CORD	
	SKIN	
	URINARY BLADDER	
	LN, AXILLARY	
	STERNUM	
	JOINT	
	DUODENUM	
	HEART	
	LN, MANDIBULAR	
	MAMMARY GLAND	
	RECTUM	
	STOMACH, NON	

ANIMAL NO.11091GROUP 1:UNTREATEDFEMALESCHEDULED EUTH08/07/11DATE OF DEATH: 08/07/11STUDY DAY: 90

GRADE

SKELETAL MUSCLESPLEENTHYROID GLANDSPARATHYROIDS
TRACHEAURINARY BLADDERUTERUSLN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11092 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
BRAIN	1.78	0.664	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
LIVER	7.24	2.701	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
KIDNEYS	1.83	0.683		PARS NERVOSA NOT IN THE PLANE OF SECTION				
SPLEEN	0.51	0.190	UTERUS	MICRO: DILATATION, LUMEN				1
HEART	1.03	0.384	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS				P
UTERUS	0.77	0.287	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2456	0.092		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1037	0.039	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0670	0.025		SUPERFICIAL DERMIS				
PITUITARY	0.0189	0.007	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0146	0.005	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	268.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	
				OVIDUCTS	OVARIES	PANCREAS	PITUITARY	

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11092 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SKIN SPLEEN
THYROID GLANDS THYMUS TRACHEA URINARY BLADDER
CERVIX LN, AXILLARY

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11093	GROUP	1:	UNTREATED	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.		ADRENAL CORTEX		MICRO: HYPERTROPHY				(1)
BRAIN	1.86	0.578				ZONA FASCICULATA				
LIVER	7.72	2.398		HEART		MICRO: CARDIOMYOPATHY				((1))
KIDNEYS	1.79	0.556				RIGHT VENTRICLE, INTERVENTRICULAR SEPTUM				
SPLEEN	0.60	0.186		KIDNEYS		MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				(1)
HEART	1.03	0.320		LIVER		MICRO: INFILTRATE, MONONUCLEAR				((1))
UTERUS	0.51	0.158		SKELETAL MUSCLE		MICRO: DEGENERATION, MUSCLE				((1))
THYMUS	0.2806	0.087		THYMUS		GROSS: AREA(S), DARK RED				P
OVARIES/OVIDUCTS	0.1188	0.037				MULTIPLE, IRREGULARLY SHAPED				
ADRENAL GLANDS	0.0490	0.015		^==>		THYMUS: HEMORRHAGE				
PITUITARY	0.0228	0.007		THYMUS		MICRO: HEMORRHAGE				((2))
THYROID/SPARATHY	0.0194	0.006		VAGINA		MICRO: ESTROUS CYCLE: DIESTRUS				P
FINAL BODY WT(G)	322.			SKIN, TREATED		MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
				NO SIGNIFICANT						
				CHANGES OBSERVED		GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
						HEART	ILEUM	JEJUNUM	KIDNEYS	
						LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
						LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
						OVARIES	PANCREAS	PITUITARY	RECTUM	
						SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
						SKIN	SPLEEN	THYROID GLANDS	TRACHEA	
						URINARY BLADDER	UTERUS	VAGINA	CERVIX	
						LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED		
						MICRO:ADRENAL MEDULLA	AORTA	STERNUM	MARROW, STERN	
						FEMUR	MARROW, FEMUR	JOINT	BRAIN	
						CECUM	COLON	DUODENUM	ESOPHAGUS	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11093 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

EYES	NERVES, OPTIC	ILEUM	JEJUNUM
LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS
MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	OVARIES
PANCREAS	PITUITARY	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKIN
SPLEEN	THYROID GLANDS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	SKIN, UNTREATED

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11098 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	MICRO: KIDNEY DEPRESSION - ANATOMICAL VARIATION				P
BRAIN	1.86	0.699	KIDNEYS	GROSS: AREA(S), DEPRESSED				P
LIVER	7.14	2.684		FEW, PINPOINT, IN CORTEX, LEFT				
KIDNEYS	1.78	0.669	^==> GENERAL COMMENT: KIDNEY DEPRESSION - ANATOMICAL VARIATION					
SPLEEN	0.58	0.218	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				(1)
HEART	1.00	0.376	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
UTERUS	0.75	0.282	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2098	0.079		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1240	0.047	UTERUS	MICRO: DILATATION, LUMEN				1
ADRENAL GLANDS	0.0597	0.022	VAGINA	MICRO: ESTROUS CYCLE: ESTRUS				P
PITUITARY	0.0187	0.007	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYROIDS/PARATHY	0.0131	0.005		SUPERFICIAL DERMIS				
FINAL BODY WT(G)	266.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	LN, MANDIBULAR	
				LAC. GLAND EXOR	LIVER	LN, MESENTERIC	LUNGS	
				MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	OVARIES	
				PANCREAS	PITUITARY	RECTUM	SPINAL CORD	
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN	
				SPLEEN	THYROID GLANDS	THYMUS	TRACHEA	
				URINARY BLADDER	UTERUS	VAGINA	CERVIX	
				LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED		
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11098 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
CERVIX LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11115 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	2.04	0.764		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	7.20	2.697	HEART	MICRO: CARDIOMYOPATHY			
KIDNEYS	1.99	0.745		LEFT ATRIUM			
SPLEEN	0.44	0.165	LIVER	MICRO: INFILTRATE, MONONUCLEAR			
HEART	1.06	0.397		FOCUS, CLEAR CELL			
UTERUS	0.44	0.165	THYMUS	GROSS: AREA(S), DARK RED			
THYMUS	0.2145	0.080		MULTIPLE, PINPOINT			
OVARIES/OVIDUCTS	0.1275	0.048	^==>	THYMUS: HEMORRHAGE			
ADRENAL GLANDS	0.0728	0.027	THYMUS	MICRO: HEMORRHAGE			
PITUITARY	0.0232	0.009	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS			
THYROIDS/PARATHY	0.0140	0.005	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			
FINAL BODY WT(G)	267.			SUPERFICIAL DERMIS			
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	TRACHEA
				URINARY BLADDER	UTERUS	VAGINA	CERVIX
				LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11115 GROUP 1: UNTREATED FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SKIN	SPLEEN
THYROID GLANDS	PARATHYROIDS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	SKIN, TREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11114 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: FOCUS, BASOPHILIC CELL				(1)
BRAIN	1.93	0.717		INFILTRATE, MONONUCLEAR				((1))
LIVER	7.64	2.840	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
KIDNEYS	1.68	0.625		SUPERFICIAL DERMIS				
SPLEEN	0.44	0.164	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
HEART	1.04	0.387	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
UTERUS	0.39	0.145		SUPERFICIAL DERMIS				
THYMUS	0.3719	0.138	NO SIGNIFICANT					
OVARIES/OVIDUCTS	0.1280	0.048	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
ADRENAL GLANDS	0.0626	0.023		JOINT	BRAIN	CECUM	COLON	
PITUITARY	0.0178	0.007		DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
THYROIDS/PARATHY	0.0143	0.005		HEART	ILEUM	JEJUNUM	KIDNEYS	
FINAL BODY WT(G)	269.			LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND	
				NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS	
				PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND	
				STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN	
				THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA	
				URINARY BLADDER	UTERUS	CERVIX	LN, AXILLARY	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11114 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11070	GROUP	2:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.								
BRAIN	1.88	0.684			KIDNEYS	MICRO: MINERALIZATION				((1))
LIVER	8.74	3.178				JUNCTION OF INNER AND OUTER MEDULLA				
KIDNEYS	1.99	0.724			LIVER	MICRO: INFILTRATE, MONONUCLEAR				(1)
SPLEEN	0.60	0.218			LUNGS	MICRO: MACROPHAGES, ALVEOLAR				((1))
HEART	1.04	0.378				WITH BROWN PIGMENT				((1))
UTERUS	0.74	0.269			OVARIES	MICRO: DECREASED CORPORA LUTEA				4
THYMUS	0.2183	0.079				WITH LARGE TERTIARY FOLLICLES				
OVARIES/OVIDUCTS	0.0961	0.035			SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0900	0.033				SUPERFICIAL DERMIS				
PITUITARY	0.0228	0.008			PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
THYROIDES/PARATHY	0.0160	0.006				ONE OF PAIR NOT IN THE PLANE OF SECTION				
FINAL BODY WT(G)	275.				UTERUS	MICRO: HYPERPLASIA, ENDOMETRIAL				1
					VAGINA	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM				2
						CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE				
					CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM				2
						CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE				
					SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
						SUPERFICIAL DERMIS				
					NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
						JOINT	BRAIN	CECUM	COLON	
						DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
						HEART	ILEUM	JEJUNUM	KIDNEYS	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11070 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
OVARIES	PANCREAS	PITUITARY	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
SKIN	SPLEEN	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
PANCREAS	PITUITARY	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	THYROID GLANDS	PARATHYROIDS	THYMUS
TRACHEA	URINARY BLADDER	LN, AXILLARY	SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11074 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR			((1))
BRAIN	1.84	0.672	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
LIVER	9.11	3.325	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
KIDNEYS	2.12	0.774		SUPERFICIAL DERMIS			
SPLEEN	0.54	0.197	UTERUS	MICRO: DILATATION, LUMEN			1
HEART	1.10	0.401	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS			P
UTERUS	0.69	0.252	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
THYMUS	0.1878	0.069		SUPERFICIAL DERMIS			
OVARIES/OVIDUCTS	0.1328	0.048	NO SIGNIFICANT				
ADRENAL GLANDS	0.0774	0.028	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
PITUITARY	0.0204	0.007		JOINT	BRAIN	CECUM	COLON
THYROIDS/PARATHY	0.0122	0.004		DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
FINAL BODY WT(G)	274.			HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
				OVIDUCTS	OVARIES	PANCREAS	PITUITARY
				RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
				STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
				PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11074 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

CERVIX LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11079	GROUP	2:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR						((1))
BRAIN	1.65	0.682	LIVER	MICRO: INFILTRATE, MONONUCLEAR						((1))
LIVER	7.74	3.198	LUNGS	MICRO: MACROPHAGES, ALVEOLAR						((1))
KIDNEYS	1.59	0.657	MAMMARY GLAND	MICRO: INCREASED SECRETION						2
SPLEEN	0.46	0.190		ASSOCIATED WITH PERSISTENT ESTRUS						
HEART	1.01	0.417	OVARIES	MICRO: DECREASED CORPORA LUTEA						4
UTERUS	0.67	0.277		WITH LARGE TERTIARY FOLLICLES						
THYMUS	0.2024	0.084	SKIN	MICRO: INFILTRATE, MONONUCLEAR						1
OVARIES/OVIDUCTS	0.0678	0.028		SUPERFICIAL DERMIS						
ADRENAL GLANDS	0.0666	0.028	UTERUS	MICRO: HYPERPLASIA, ENDOMETRIAL						1
PITUITARY	0.0281	0.012		OCCASIONAL SINGLE CELL NECROSIS IN COLUMNAR ENDOMETRIUM						
THYROIDS/PARATHY	0.0125	0.005	VAGINA	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM						3
FINAL BODY WT(G)	242.			CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE						
			CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM						3
				CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE						
			LN, AXILLARY	MICRO: ERYTHROCYTOSIS, SINUS						1
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR						1
				SUPERFICIAL DERMIS						
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR						1
				SUPERFICIAL DERMIS						
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR			
				JOINT	BRAIN	CECUM	COLON			
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC			

ANIMAL NO.	11079	GROUP	2:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89
									GRADE

HEART	ILEUM	JEJUNUM	KIDNEYS
LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
OVARIES	PANCREAS	PITUITARY	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
SKIN	SPLEEN	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LN, MESENTERIC	NERVE, SCIATIC	OVIDUCTS	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
THYROID GLANDS	THYMUS	TRACHEA	URINARY BLADDER

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
 ()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11084 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
BRAIN	1.86	0.729	SKIN	MICRO: INFILTRATE, MONONUCLEAR			2
LIVER	7.54	2.957		SUPERFICIAL DERMIS			
KIDNEYS	1.72	0.675	UTERUS	MICRO: DILATATION, LUMEN			1
SPLEEN	0.52	0.204	VAGINA	MICRO: ESTROUS CYCLE: ESTRUS			P
HEART	0.97	0.380	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
UTERUS	0.62	0.243		SUPERFICIAL DERMIS			
THYMUS	0.3508	0.138	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			2
OVARIES/OVIDUCTS	0.1100	0.043		SUPERFICIAL DERMIS			
ADRENAL GLANDS	0.0734	0.029		CELLULAR DEBRIS			1
PITUITARY	0.0159	0.006		EPIDERMAL			
THYROIDS/PARATHY	0.0148	0.006	NO SIGNIFICANT				
FINAL BODY WT(G)	255.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR

ANIMAL NO.11084GROUP 2: 0 MG/KG/DAYFEMALESCHEDULED EUTH08/06/11DATE OF DEATH: 08/06/11STUDY DAY: 89

GRADE

LAC. GLAND EXORLN, MESENTERICLUNGSMAMMARY GLAND
NERVE, SCIATICOVIDUCTSOVARIESPANCREAS
PITUITARYRECTUMSPINAL CORDSAL. GLAND MAND
STOMACH, GLANSTOMACH, NONSKELETAL MUSCLESPLEEN
THYROID GLANDSPARATHYROIDSTHYMUSTRACHEA
URINARY BLADDERCERVIXLN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

ORGAN WEIGHT	ABS. (G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE					((1))
BRAIN	1.84	0.595	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR					(1)
LIVER	8.66	2.803	PITUITARY	GROSS: ENLARGED					P
KIDNEYS	1.87	0.605		6 X 5 X 4 MM					
SPLEEN	0.58	0.188	^==> GROSS	UNCONFIRMED					
HEART	1.08	0.350	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
UTERUS	0.97	0.314		PARS INTERMEDIA AND PARS NERVOSA NOT IN THE PLANE OF SECTION					
THYMUS	0.3065	0.099	STOMACH, GLAN	MICRO: DILATATION, GLANDULAR					1
OVARIES/OVIDUCTS	0.0909	0.029	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
ADRENAL GLANDS	0.0598	0.019		SUPERFICIAL DERMIS					
PITUITARY	0.0236	0.008	UTERUS	MICRO: DILATATION, LUMEN					3
THYROIDS/PARATHY	0.0164	0.005	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS					P
FINAL BODY WT(G)	309.		SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC		
				HEART	ILEUM	JEJUNUM	KIDNEYS		
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC		
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS		
				OVARIES	PANCREAS	RECTUM	SPINAL CORD		
				SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	SKIN		
				SPLEEN	THYROID GLANDS	THYMUS	TRACHEA		
				URINARY BLADDER	UTERUS	VAGINA	CERVIX		
				LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED			
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM		
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT		
				BRAIN	CECUM	COLON	DUODENUM		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11087 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ESOPHAGUS EYES NERVES, OPTIC HEART
ILEUM JEJUNUM LN, MANDIBULAR LIVER
LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, NON
SKELETAL MUSCLE SPLEEN THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER CERVIX
LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11099 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
BRAIN	1.95	0.687	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
LIVER	8.88	3.127		SUPERFICIAL DERMIS			
KIDNEYS	2.16	0.761	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS			P
SPLEEN	0.63	0.222	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
HEART	1.08	0.380		SUPERFICIAL DERMIS			
UTERUS	0.55	0.194	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			2
THYMUS	0.1587	0.056		SUPERFICIAL DERMIS			
OVARIES/OVIDUCTS	0.1251	0.044		INFILTRATE, HISTIOCYTE			((1))
ADRENAL GLANDS	0.0713	0.025		SUPERFICIAL DERMIS			
PITUITARY	0.0180	0.006	NO SIGNIFICANT				
THYROIDS/PARATHY	0.0130	0.005	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
FINAL BODY WT(G)	284.			JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11099 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

NERVE, SCIATIC OVIDUCTS OVARIES PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
THYROID GLANDS PARATHYROID THYMUS TRACHEA
URINARY BLADDER UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11110 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY			(1)
BRAIN	1.98	0.783		RIGHT ATRIUM			
LIVER	7.04	2.783	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
KIDNEYS	1.77	0.700	LUNGS	MICRO: MACROPHAGES, ALVEOLAR			(1)
SPLEEN	0.48	0.190	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
HEART	1.01	0.399		SUPERFICIAL DERMIS			
UTERUS	0.56	0.221	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS			P
THYMUS	0.2237	0.088		EARLY			
OVARIES/OVIDUCTS	0.1283	0.051	NO SIGNIFICANT				
ADRENAL GLANDS	0.0641	0.025	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
PITUITARY	0.0218	0.009		JOINT	BRAIN	CECUM	COLON
THYROIDS/PARATHY	0.0143	0.006		DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
FINAL BODY WT(G)	253.			HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM
				JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
				LN, MESENTERIC	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON
				SKELETAL MUSCLE	SPLEEN	THYROID GLANDS	THYMUS

ANIMAL NO.11110GROUP 2: 0 MG/KG/DAYFEMALESCHEDULED EUTH08/07/11DATE OF DEATH: 08/07/11STUDY DAY: 90

GRADE

TRACHEA
LN, AXILLARY

URINARY BLADDER
SKIN, UNTREATED

UTERUS
SKIN, TREATED

CERVIX

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11111 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	1.98	0.786		APEX, INTERVENTRICULAR SEPTUM				
LIVER	7.26	2.881	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	1.87	0.742	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.67	0.266		SUPERFICIAL DERMIS				
HEART	0.91	0.361	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.42	0.167	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.1792	0.071		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1423	0.056	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0576	0.023		SUPERFICIAL DERMIS				
PITUITARY	0.0184	0.007	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0147	0.006	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	252.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM	
				JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	

ANIMAL NO.11111GROUP 2: 0 MG/KG/DAYFEMALESCHEDULED EUTH08/07/11DATE OF DEATH: 08/07/11STUDY DAY: 90

GRADE

	OVIDUCTS	OVARIES	PANCREAS	PITUITARY
	RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
	STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
	THYMUS	TRACHEA	URINARY BLADDER	UTERUS
	CERVIX	LN, AXILLARY		
NOT PRESENT FOR EXAMINATION				
	MICRO:PARATHYROIDS			
	GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT			
	MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT			
	()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED			

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11116 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	ILEUM	MICRO: ABSCESS, CRYPTS			(1)
BRAIN	1.75	0.738		OVERLYING PEYER'S PATCH			
LIVER	7.60	3.207	OVARIES	MICRO: DECREASED CORPORA LUTEA			3
KIDNEYS	1.72	0.726	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
SPLEEN	0.43	0.181		SUPERFICIAL DERMIS			
HEART	1.21	0.511	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
UTERUS	0.78	0.329		ONE OF PAIR NOT IN THE PLANE OF SECTION			
THYMUS	0.1969	0.083	UTERUS	MICRO: HYPERPLASIA, ENDOMETRIAL			2
OVARIES/OVIDUCTS	0.0974	0.041		OCCASIONAL SINGLE CELL NECROSIS IN COLUMNAR ENDOMETRIUM			
ADRENAL GLANDS	0.0779	0.033	VAGINA	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM			2
PITUITARY	0.0230	0.010		CONSISTENT WITH PERSISTENT ESTRUS, SENESENCE			
THYROIDS/PARATHY	0.0109	0.005	CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM			2
FINAL BODY WT(G)	237.			CONSISTENT WITH PERSISTENT ESTRUS, SENESENCE			
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
				SUPERFICIAL DERMIS			
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11116 GROUP 2: 0 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LIVER	LN, MESENTERIC	LUNGS	MAMMARY GLAND
NERVE, SCIATIC	OVIDUCTS	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
LN, AXILLARY	SKIN, TREATED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11071 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
BRAIN	1.99	0.675		MINERALIZATION				2
LIVER	8.35	2.831		JUNCTION OF INNER AND OUTER MEDULLA				
KIDNEYS	1.98	0.671	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR				(1)
SPLEEN	0.63	0.214	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
HEART	1.03	0.349	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
UTERUS	0.39	0.132		ONE OF PAIR NOT IN THE PLANE OF SECTION				
THYMUS	0.4075	0.138	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
OVARIES/OVIDUCTS	0.1537	0.052	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0689	0.023		SUPERFICIAL DERMIS				
PITUITARY	0.0256	0.009	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0156	0.005	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	295.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11071 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SKIN SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
UTERUS CERVIX LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11072 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
BRAIN	1.96	0.817	PANCREAS	MICRO: INFILTRATE, MONONUCLEAR	(1)
LIVER	6.31	2.629		ON SLIDE 4	
KIDNEYS	1.55	0.646	PITUITARY	MICRO: MINERALIZATION	(1)
SPLEEN	0.50	0.208		PARS DISTALIS	
HEART	0.92	0.383	STOMACH, NON	MICRO: INFLAMMATION, VASCULAR	(1)
UTERUS	0.50	0.208	SKIN	MICRO: INFILTRATE, MONONUCLEAR	2
THYMUS	0.3486	0.145		SUPERFICIAL DERMIS AND PERIFOLLICULAR	
OVARIES/OVIDUCTS	0.1070	0.045	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
ADRENAL GLANDS	0.0590	0.025		ONE OF PAIR NOT IN THE PLANE OF SECTION	
PITUITARY	0.0162	0.007	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS	P
THYROIDES/PARATHY	0.0174	0.007		EARLY	
FINAL BODY WT(G)	240.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
				INFILTRATE, HISTIOCYTE	((1))
				WITH MULTINUCLEATED GIANT CELLS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				HEART	
				LN, MANDIBULAR	
				AORTA	
				BRAIN	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				KIDNEYS	
				LN, MESENTERIC	

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11072 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
	OVARIES	PANCREAS	PITUITARY	RECTUM
	SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
	SKIN	SPLEEN	THYROID GLANDS	THYMUS
	TRACHEA	URINARY BLADDER	UTERUS	VAGINA
	CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:	GENERAL COMMENT	ADRENAL CORTEX	ADRENAL MEDULLA	AORTA
	STERNUM	MARROW, STERN	FEMUR	MARROW, FEMUR
	JOINT	BRAIN	CECUM	COLON
	DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
	HEART	ILEUM	JEJUNUM	KIDNEYS
	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	LUNGS
	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	OVARIES
	RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS	PARATHYROIDS
	THYMUS	TRACHEA	URINARY BLADDER	UTERUS
	CERVIX	LN, AXILLARY		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11073 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	BRAIN	MICRO: MINERALIZATION			(1)
BRAIN	1.94	0.738		THALAMUS			
LIVER	7.94	3.019	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
KIDNEYS	1.79	0.681	UTERUS	GROSS: CONTENTS, CLEAR FLUID			P
SPLEEN	0.48	0.183		BOTH HORNS			
HEART	1.13	0.430	^==>	UTERUS: DILATATION, LUMEN			
UTERUS	0.79	0.300	^==>	VAGINA: ESTROUS CYCLE: PROESTRUS			
THYMUS	0.3952	0.150	UTERUS	MICRO: DILATATION, LUMEN			1
OVARIES/OVIDUCTS	0.1198	0.046	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS			P
ADRENAL GLANDS	0.0619	0.024	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
PITUITARY	0.0208	0.008		SUPERFICIAL DERMIS			
THYROIDS/PARATHY	0.0151	0.006	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
FINAL BODY WT(G)	263.			SUPERFICIAL DERMIS			
			NO SIGNIFICANT				
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	VAGINA	CERVIX
				LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				CECUM	COLON	DUODENUM	ESOPHAGUS
				EYES	NERVES, OPTIC	HEART	ILEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11073 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

JEJUNUM KIDNEYS LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SKIN SPLEEN
THYROID GLANDS PARATHYROIDS THYMUS TRACHEA
URINARY BLADDER CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11076 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR		((1))
BRAIN	1.82	0.669	SKIN	MICRO: INFILTRATE, MONONUCLEAR		1
LIVER	7.53	2.768		SUPERFICIAL DERMIS		
KIDNEYS	1.94	0.713	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED		
SPLEEN	0.52	0.191		ONE OF PAIR NOT IN THE PLANE OF SECTION		
HEART	1.08	0.397	UTERUS	GROSS: CONTENTS, CLEAR FLUID		P
UTERUS	0.83	0.305		BOTH HORNS		
THYMUS	0.2252	0.083	^==>	UTERUS: DILATATION, LUMEN		
OVARIES/OVIDUCTS	0.1408	0.052	^==>	VAGINA: ESTROUS CYCLE: PROESTRUS		
ADRENAL GLANDS	0.0604	0.022	UTERUS	MICRO: DILATATION, LUMEN		1
PITUITARY	0.0179	0.007	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS		P
THYROIDS/PARATHY	0.0107	0.004	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR		1
FINAL BODY WT(G)	272.			SUPERFICIAL DERMIS		
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM
				JOINT	BRAIN	FEMUR
				DUODENUM	ESOPHAGUS	CECUM
				HEART	ILEUM	EYES
				LN, MANDIBULAR	LAC. GLAND EXOR	JEJUNUM
				LUNGS	MAMMARY GLAND	LIVER
				OVARIES	PANCREAS	NERVE, SCIATIC
				SPINAL CORD	SAL. GLAND MAND	PITUITARY
				SKIN	SPLEEN	STOMACH
				TRACHEA	URINARY BLADDER	THYROID GLANDS
				LN, AXILLARY	SKIN, UNTREATED	VAGINA
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	SKIN, TREATED
				MARROW, STERN	FEMUR	AORTA
				BRAIN	CECUM	MARROW, FEMUR
				ESOPHAGUS	EYES	COLON
						NERVES, OPTIC
						STERNUM
						JOINT
						DUODENUM
						HEART

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11076 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND
NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA
URINARY BLADDER	CERVIX	LN, AXILLARY	SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11078 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	ADRENAL CORTEX	MICRO: HYPERTROPHY				(1)
BRAIN	1.91	0.823	BRAIN	MICRO: MACROPHAGES, PIGMENTED				(1)
LIVER	6.34	2.733		DULL BROWN PIGMENT, IN CHOROID PLEXUS				
KIDNEYS	1.66	0.716	HEART	MICRO: CARDIOMYOPATHY				(1)
SPLEEN	0.41	0.177		PAPILLARY MUSCLE				
HEART	0.88	0.379	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
UTERUS	0.50	0.216	LUNGS	MICRO: MACROPHAGES, ALVEOLAR				(1)
THYMUS	0.2042	0.088	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.0989	0.043		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0615	0.027	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
PITUITARY	0.0177	0.008		ONE OF PAIR NOT IN THE PLANE OF SECTION				
THYROIDES/PARATHY	0.0142	0.006	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
FINAL BODY WT(G)	232.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
				SUPERFICIAL DERMIS				
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
				SUPERFICIAL DERMIS				
				INFILTRATE, HISTIOCYTE				((1))
				WITH MULTINUCLEATED GIANT CELLS				
NO SIGNIFICANT CHANGES OBSERVED			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
			JOINT	BRAIN	CECUM	COLON		
			DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC		
			HEART	ILEUM	JEJUNUM	KIDNEYS		
			LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC		
			LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS		

ANIMAL NO.	11078	GROUP	3: 100 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89
								GRADE

	OVARIES	PANCREAS	PITUITARY
	SPINAL CORD	SAL. GLAND MAND	STOMACH
	SKIN	SPLEEN	THYROID GLANDS
	TRACHEA	URINARY BLADDER	UTERUS
	CERVIX	LN, AXILLARY	SKIN, UNTREATED
	MICRO:ADRENAL MEDULLA	AORTA	SKIN, TREATED
	FEMUR	MARROW, FEMUR	STERNUM
	COLON	DUODENUM	JOINT
	NERVES, OPTIC	ILEUM	ESOPHAGUS
	LN, MANDIBULAR	LAC. GLAND EXOR	JEJUNUM
	NERVE, SCIATIC	OVIDUCTS	LN, MESENTERIC
	PITUITARY	RECTUM	OVARIES
	STOMACH, GLAN	STOMACH, NON	SPINAL CORD
	THYROID GLANDS	PARATHYROIDS	SKELETAL MUSCLE
	URINARY BLADDER	UTERUS	THYMUS
			CERVIX
			RECTUM
			SKELETAL MUSCLE
			THYMUS
			VAGINA
			MARROW, STERN
			CECUM
			EYES
			KIDNEYS
			MAMMARY GLAND
			PANCREAS
			SAL. GLAND MAND
			SPLEEN
			TRACHEA
			LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11083	GROUP	3: 100 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
BRAIN	1.98	0.673	LUNGS	MICRO: INFILTRATE, EOSINOPHIL, PERIVASCULAR					(1)
LIVER	7.92	2.694		FOCALLY EXTENSIVE					
KIDNEYS	1.93	0.656	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
SPLEEN	0.53	0.180		SUPERFICIAL DERMIS					
HEART	1.05	0.357	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
UTERUS	1.06	0.361		ONE OF PAIR NOT IN THE PLANE OF SECTION					
THYMUS	0.3614	0.123	UTERUS	MICRO: DILATATION, LUMEN					2
OVARIES/OVIDUCTS	0.1194	0.041	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS					P
ADRENAL GLANDS	0.0642	0.022	LN, AXILLARY	MICRO: ERYTHROCYTOSIS, SINUS					1
PITUITARY	0.0176	0.006		ONE OF PAIR NOT IN THE PLANE OF SECTION					
THYROIDS/PARATHY	0.0184	0.006	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
FINAL BODY WT(G)	294.			SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED						
			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR			
			JOINT	BRAIN	CECUM	COLON			
			DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC			
			HEART	ILEUM	JEJUNUM	KIDNEYS			
			LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC			
			LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS			
			OVARIES	PANCREAS	PITUITARY	RECTUM			
			SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE			
			SKIN	SPLEEN	THYROID GLANDS	THYMUS			
			TRACHEA	URINARY BLADDER	UTERUS	VAGINA			
			CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED			
			MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM			
			MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT			

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11083 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
LAC. GLAND EXOR	LN, MESENTERIC	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
CERVIX	SKIN, UNTREATED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11086	GROUP	3: 100 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE MINERALIZATION					(1)
BRAIN	1.97	0.709		JUNCTION OF INNER AND OUTER MEDULLA					((1))
LIVER	7.99	2.874	LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR					((1))
KIDNEYS	2.23	0.802	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
SPLEEN	0.67	0.241	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
HEART	1.04	0.374		SUPERFICIAL DERMIS					
UTERUS	0.90	0.324	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
THYMUS	0.1930	0.069		ONE OF PAIR NOT IN THE PLANE OF SECTION					
OVARIES/OVIDUCTS	0.1388	0.050	UTERUS	MICRO: DILATATION, LUMEN					2
ADRENAL GLANDS	0.0604	0.022	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS					P
PITUITARY	0.0194	0.007	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDS/PARATHY	0.0115	0.004		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	278.			INFILTRATE, HISTIOCYTE					(1)
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		
				JOINT	BRAIN	CECUM	COLON		
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC		
				HEART	ILEUM	JEJUNUM	KIDNEYS		
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC		
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS		
				OVARIES	PANCREAS	PITUITARY	RECTUM		
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE		
				SKIN	SPLEEN	THYROID GLANDS	THYMUS		
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA		
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED		

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11086 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
OVARIES	PANCREAS	PITUITARY	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON
SKELETAL MUSCLE	SPLEEN	THYROID GLANDS	PARATHYROIDS
THYMUS	TRACHEA	URINARY BLADDER	CERVIX
LN, AXILLARY	SKIN, UNTREATED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11101 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY			P
BRAIN	1.99	0.701		BRAIN			
LIVER	9.56	3.366	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
KIDNEYS	2.40	0.845		ONE OF PAIR NOT IN THE PLANE OF SECTION			
SPLEEN	0.60	0.211	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
HEART	1.18	0.415		HYPERPLASIA, BILE DUCT			1
UTERUS	0.57	0.201	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
THYMUS	0.3083	0.109		SUPERFICIAL DERMIS			
OVARIES/OVIDUCTS	0.1553	0.055	THYMUS	MICRO: HEMORRHAGE			((2))
ADRENAL GLANDS	0.0822	0.029	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS			P
PITUITARY	0.0240	0.008		EARLY			
THYROIDS/PARATHY	0.0170	0.006	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
FINAL BODY WT(G)	284.			SUPERFICIAL DERMIS			
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
				SUPERFICIAL DERMIS			
			NO SIGNIFICANT	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
			CHANGES OBSERVED	JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11101 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MICRO:ADRENAL CORTEX ADRENAL MEDULLA AORTA STERNUM
MARROW, STERN FEMUR MARROW, FEMUR JOINT
BRAIN CECUM COLON DUODENUM
ESOPHAGUS EYES NERVES, OPTIC HEART
ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LAC. GLAND EXOR LN, MESENTERIC LUNGS MAMMARY GLAND
NERVE, SCIATIC OVIDUCTS OVARIES PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
THYROID GLANDS PARATHYROIDS TRACHEA URINARY BLADDER
UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11102 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: MINERALIZATION			((1))
BRAIN	1.94	0.713		JUNCTION OF INNER AND OUTER MEDULLA			
LIVER	8.03	2.952	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
KIDNEYS	1.89	0.695	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
SPLEEN	0.56	0.206		SUPERFICIAL DERMIS			
HEART	1.20	0.441	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS			P
UTERUS	0.65	0.239		EARLY			
THYMUS	0.2983	0.110	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
OVARIES/OVIDUCTS	0.1815	0.067		SUPERFICIAL DERMIS			
ADRENAL GLANDS	0.0843	0.031	NO SIGNIFICANT				
PITUITARY	0.0259	0.010	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
THYROIDS/PARATHY	0.0144	0.005		JOINT	BRAIN	CECUM	COLON
FINAL BODY WT(G)	272.			DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
				OVIDUCTS	OVARIES	PANCREAS	PITUITARY

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11102 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
UTERUS CERVIX LN, AXILLARY SKIN, UNTREATED

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11113 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	ADRENAL CORTEX	MICRO: NECROSIS, SINGLE CELL			1
BRAIN	1.91	0.770		ZONA RETICULARIS			
LIVER	6.74	2.718	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
KIDNEYS	1.64	0.661		ONE OF PAIR NOT IN THE PLANE OF SECTION			
SPLEEN	0.47	0.190	HEART	MICRO: CARDIOMYOPATHY			((1))
HEART	0.97	0.391		LEFT VENTRICLE, INTERVENTRICULAR SEPTUM			
UTERUS	0.44	0.177	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
THYMUS	0.1407	0.057	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
OVARIES/OVIDUCTS	0.1221	0.049		ONE OF PAIR NOT IN THE PLANE OF SECTION			
ADRENAL GLANDS	0.0711	0.029	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS			P
PITUITARY	0.0210	0.008		EARLY			
THYROIDS/PARATHY	0.0134	0.005	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
FINAL BODY WT(G)	248.			SUPERFICIAL DERMIS			
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
				SUPERFICIAL DERMIS			
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS

PROJECT NO.:WIL-402025 A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS PAGE 158
 SPONSOR:AMERICAN PETROLEUM INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

ANIMAL NO. 11113 GROUP 3: 100 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90

 GRADE

TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL MEDULLA	AORTA	STERNUM	MARROW, STERN
FEMUR	MARROW, FEMUR	JOINT	BRAIN
CECUM	COLON	DUODENUM	ESOPHAGUS
EYES	NERVES, OPTIC	ILEUM	JEJUNUM
KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
OVARIES	PANCREAS	PITUITARY	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON
SKELETAL MUSCLE	SKIN	SPLEEN	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
 ()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

ANIMAL NO.	11066	GROUP	4: 300 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/06/11	DATE OF DEATH: 08/06/11	STUDY DAY: 89
								GRADE

ORGAN	WEIGHT	ABS. (G)	REL.	HEART	MICRO: CARDIOMYOPATHY				((1))
BRAIN	1.90	0.731			LEFT AND RIGHT VENTRICLES				
LIVER	8.86	3.408		SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
KIDNEYS	1.84	0.708			SUPERFICIAL DERMIS				
SPLEEN	0.61	0.235		PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
HEART	1.13	0.435			ONE OF PAIR NOT IN THE PLANE OF SECTION				
UTERUS	0.91	0.350		URINARY BLADDER	MICRO: INFILTRATE, MONONUCLEAR				(1)
THYMUS	0.2704	0.104		UTERUS	GROSS: CONTENTS, CLEAR FLUID				P
OVARIES/OVIDUCTS	0.1227	0.047			BOTH HORNS				
ADRENAL GLANDS	0.0696	0.027		^==>	UTERUS: DILATATION, LUMEN				
PITUITARY	0.0185	0.007		^==>	VAGINA: ESTROUS CYCLE: PROESTRUS				
THYROIDES/PARATHY	0.0160	0.006		UTERUS	MICRO: DILATATION, LUMEN				2
FINAL BODY WT(G)	260.			VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS				P
				SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
					SUBCUTIS				
				NO SIGNIFICANT CHANGES OBSERVED	GROSS: ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
					JOINT	BRAIN	CECUM	COLON	
					DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
					HEART	ILEUM	JEJUNUM	KIDNEYS	
					LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
					LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
					OVARIES	PANCREAS	PITUITARY	RECTUM	
					SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
					SKIN	SPLEEN	THYROID GLANDS	THYMUS	
					TRACHEA	URINARY BLADDER	VAGINA	CERVIX	
					LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED		
					MICRO: ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11066 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	ILEUM
JEJUNUM	KIDNEYS	LN, MANDIBULAR	LAC. GLAND EXOR
LIVER	LN, MESENTERIC	LUNGS	MAMMARY GLAND
NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
THYROID GLANDS	PARATHYROIDS	THYMUS	TRACHEA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11075 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	EYES	MICRO: ROSETTE, RETINA	(P)
BRAIN	1.99	0.721	KIDNEYS	MICRO: MINERALIZATION	((1))
LIVER	7.89	2.859		JUNCTION OF INNER AND OUTER MEDULLA	
KIDNEYS	1.89	0.685	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
SPLEEN	0.48	0.174	OVARIES	MICRO: CYST, FOLLICULAR, LUTEINIZED	(P)
HEART	1.05	0.380	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
UTERUS	0.50	0.181		SUPERFICIAL DERMIS	
THYMUS	0.2760	0.100	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS	P
OVARIES/OVIDUCTS	0.1178	0.043		EARLY	
ADRENAL GLANDS	0.0704	0.026	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
PITUITARY	0.0223	0.008		SUPERFICIAL DERMIS	
THYROIDS/PARATHY	0.0123	0.004	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
FINAL BODY WT(G)	276.			SUPERFICIAL DERMIS	
			NO SIGNIFICANT		
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				OVARIES	
				SPINAL CORD	
				SKIN	
				TRACHEA	
				CERVIX	
				MICRO:ADRENAL CORTEX	
				MARROW, STERN	
				AORTA	
				BRAIN	
				ESOPHAGUS	
				ILEUM	
				LAC. GLAND EXOR	
				MAMMARY GLAND	
				PANCREAS	
				SAL. GLAND MAND	
				SPLEEN	
				URINARY BLADDER	
				LN, AXILLARY	
				ADRENAL MEDULLA	
				FEMUR	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVE, SCIATIC	
				PITUITARY	
				STOMACH	
				THYROID GLANDS	
				UTERUS	
				SKIN, UNTREATED	
				AORTA	
				MARROW, FEMUR	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				KIDNEYS	
				LN, MESENTERIC	
				OVIDUCTS	
				RECTUM	
				SKELETAL MUSCLE	
				THYMUS	
				VAGINA	
				SKIN, TREATED	
				STERNUM	
				JOINT	

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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11075 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	NERVES, OPTIC	HEART	ILEUM
JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
PANCREAS	PITUITARY	RECTUM	SPINAL CORD
SAL. GLAND MAND	STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE
SPLEEN	THYROID GLANDS	PARATHYROIDS	THYMUS
TRACHEA	URINARY BLADDER	UTERUS	CERVIX
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11077 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	(1)
BRAIN	1.97	0.741	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
LIVER	9.46	3.556	OVARIES	MICRO: CYST, FOLLICULAR, LUTEINIZED	((P))
KIDNEYS	1.95	0.733	PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
SPLEEN	0.58	0.218		ONE OF PAIR NOT IN THE PLANE OF SECTION	
HEART	1.12	0.421	UTERUS	MICRO: DILATATION, LUMEN	1
UTERUS	0.88	0.331	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS	P
THYMUS	0.1826	0.069	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
OVARIES/OVIDUCTS	0.1519	0.057		SUPERFICIAL DERMIS	
ADRENAL GLANDS	0.0694	0.026	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
PITUITARY	0.0201	0.008	NO SIGNIFICANT		
THYROID/PARATHY	0.0159	0.006	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
FINAL BODY WT(G)	266.			JOINT	
				DUODENUM	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				OVARIES	
				SPINAL CORD	
				SKIN	
				TRACHEA	
				CERVIX	
				MICRO:ADRENAL CORTEX	
				MARROW, STERN	
				BRAIN	
				ESOPHAGUS	
				ILEUM	
				LN, MESENTERIC	
				OVIDUCTS	
				SPINAL CORD	
				AORTA	
				BRAIN	
				CECUM	
				EYES	
				JEJUNUM	
				LUNGS	
				MAMMARY GLAND	
				PITUITARY	
				STOMACH, GLAN	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
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				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
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				STOMACH, GLAN	
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				NERVES, OPTIC	
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				LIVER	
				NERVES, OPTIC	
				PITUITARY	
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				EYES	
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				NERVES, OPTIC	
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				NERVES, OPTIC	
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				NERVES, OPTIC	
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				CECUM	
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				NERVES, OPTIC	
				PITUITARY	
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				CECUM	
				EYES	
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				LIVER	
				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
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				CECUM	
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				NERVES, OPTIC	
				PITUITARY	
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				CECUM	
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				NERVES, OPTIC	
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				STOMACH, GLAN	
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				NERVES, OPTIC	
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				CECUM	
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				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
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				JEJUNUM	
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				NERVES, OPTIC	
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				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
				STERNUM	
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				EYES	
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				NERVES, OPTIC	
				PITUITARY	
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				STERNUM	
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				EYES	
				JEJUNUM	
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				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
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				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
				PITUITARY	
				STOMACH, GLAN	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVES, OPTIC	
				PITUITARY	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11077 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SKELETAL MUSCLE SKIN SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11080 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	1.95	0.859	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	6.88	3.031		SUPERFICIAL DERMIS				
KIDNEYS	1.87	0.824	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
SPLEEN	0.48	0.211		ONE OF PAIR NOT IN THE PLANE OF SECTION				
HEART	1.00	0.441	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.54	0.238		LATE				
THYMUS	0.2107	0.093	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.1060	0.047		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0771	0.034	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				2
PITUITARY	0.0211	0.009		SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0120	0.005	NO SIGNIFICANT					
FINAL BODY WT(G)	227.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11080 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ILEUM JEJUNUM KIDNEYS LN, MANDIBULAR
LAC. GLAND EXOR LN, MESENTERIC LUNGS MAMMARY GLAND
NERVE, SCIATIC OVIDUCTS OVARIES PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
THYROID GLANDS PARATHYROIDS THYMUS TRACHEA
URINARY BLADDER UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
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TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11085 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	CECUM	MICRO: INFILTRATE, MONONUCLEAR				1
BRAIN	1.89	0.675	LN, MANDIBULAR	MICRO: ERYTHROCYTOSIS, SINUS				2
LIVER	8.34	2.979	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	1.77	0.632	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
SPLEEN	0.67	0.239		PARS INTERMEDIA AND PARS NERVOSA NOT IN THE PLANE OF SECTION				
HEART	1.03	0.368	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
UTERUS	0.43	0.154		SUPERFICIAL DERMIS				
THYMUS	0.4741	0.169	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
OVARIES/OVIDUCTS	0.1418	0.051	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0847	0.030		SUPERFICIAL DERMIS				
PITUITARY	0.0174	0.006	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0152	0.005	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	280.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	COLON	DUODENUM	ESOPHAGUS	
				EYES	NERVES, OPTIC	HEART	ILEUM	
				JEJUNUM	KIDNEYS	LAC. GLAND EXOR	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11085 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SPLEEN THYROID GLANDS PARATHYROID
THYMUS TRACHEA URINARY BLADDER UTERUS
CERVIX LN, AXILLARY SKIN, UNTREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11094 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: INFLAMMATION, SUBACUTE			(1)
BRAIN	1.95	0.753		BROWN FAT, PELVIS			
LIVER	8.42	3.251	LIVER	MICRO: INFILTRATE, MONONUCLEAR			((1))
KIDNEYS	1.88	0.726	SKIN	MICRO: INFILTRATE, MONONUCLEAR			1
SPLEEN	0.50	0.193		SUPERFICIAL DERMIS			
HEART	1.07	0.413	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
UTERUS	0.57	0.220		ONE OF PAIR NOT IN THE PLANE OF SECTION			
THYMUS	0.1985	0.077	VAGINA	MICRO: ESTROUS CYCLE: ESTRUS			P
OVARIES/OVIDUCTS	0.1169	0.045	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
ADRENAL GLANDS	0.0728	0.028		SUPERFICIAL DERMIS			
PITUITARY	0.0263	0.010	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
THYROIDS/PARATHY	0.0157	0.006		SUPERFICIAL DERMIS			
FINAL BODY WT(G)	259.		NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11094 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11103 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: MINERALIZATION				((1))
BRAIN	2.00	0.702		JUNCTION OF INNER AND OUTER MEDULLA				
LIVER	9.16	3.214	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
KIDNEYS	2.01	0.705	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.61	0.214		SUPERFICIAL DERMIS				
HEART	1.14	0.400	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.49	0.172	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2736	0.096		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1482	0.052	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0679	0.024		SUPERFICIAL DERMIS				
PITUITARY	0.0207	0.007	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0168	0.006	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	285.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR	
				LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11103 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN THYROID GLANDS
PARATHYROID THYMUS TRACHEA URINARY BLADDER
UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT
MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11105 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	1.95	0.699		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	7.93	2.842	THYMUS	GROSS: AREA(S), DARK RED			P
KIDNEYS	1.99	0.713		FEW, PINPOINT			
SPLEEN	0.54	0.194	^==>	THYMUS: HEMORRHAGE			
HEART	1.13	0.405	THYMUS	MICRO: HEMORRHAGE			((1))
UTERUS	0.63	0.226	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS			P
THYMUS	0.2056	0.074	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			1
OVARIES/OVIDUCTS	0.1394	0.050		SUPERFICIAL DERMIS			
ADRENAL GLANDS	0.0601	0.022	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			1
PITUITARY	0.0144	0.005		SUPERFICIAL DERMIS			
THYROIDS/PARATHY	0.0100	0.004	NO SIGNIFICANT				
FINAL BODY WT(G)	279.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	TRACHEA
				URINARY BLADDER	UTERUS	VAGINA	CERVIX
				LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR
				LAC. GLAND EXOR	LIVER	LN, MESENTERIC	LUNGS

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SPONSOR:AMERICAN PETROLEUM

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11105 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MAMMARY GLAND NERVE, SCIATIC OVIDUCTS OVARIES
PANCREAS PITUITARY RECTUM SPINAL CORD
SAL. GLAND MAND STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE
SKIN SPLEEN THYROID GLANDS PARATHYROIDS
TRACHEA URINARY BLADDER UTERUS CERVIX
LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11106 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	1.87	0.708	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	7.50	2.841		SUPERFICIAL DERMIS AND PERIFOLLICULAR				
KIDNEYS	1.93	0.731	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
SPLEEN	0.55	0.208		EARLY				
HEART	0.99	0.375	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
UTERUS	0.33	0.125		SUPERFICIAL DERMIS				
THYMUS	0.1779	0.067	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.1336	0.051		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0656	0.025	NO SIGNIFICANT					
PITUITARY	0.0168	0.006	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
THYROIDS/PARATHY	0.0151	0.006		JOINT	BRAIN	CECUM	COLON	
FINAL BODY WT(G)	264.			DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND	
				NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS	

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11106 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
THYROID GLANDS PARATHYROIDES THYMUS TRACHEA
URINARY BLADDER UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11119	GROUP	4: 300 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90
								GRADE
ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
BRAIN	1.77	0.697		ONE OF PAIR NOT IN THE PLANE OF SECTION				
LIVER	7.69	3.028	HEART	MICRO: CARDIOMYOPATHY				
KIDNEYS	2.00	0.787		LEFT VENTRICLE, INTERVENTRICULAR SEPTUM				
SPLEEN	0.48	0.189	KIDNEYS	GROSS: AREA(S), DEPRESSED				
HEART	1.04	0.409		FEW, PINPOINT, IN CORTEX, BILATERAL				
UTERUS	1.16	0.457	^==>	KIDNEYS: NEPHROPATHY, CHRONIC PROGRESSIVE				
THYMUS	0.2132	0.084	KIDNEYS	MICRO: MINERALIZATION				
OVARIES/OVIDUCTS	0.0873	0.034		JUNCTION OF INNER AND OUTER MEDULLA				
ADRENAL GLANDS	0.0694	0.027		NEPHROPATHY, CHRONIC PROGRESSIVE				
PITUITARY	0.0211	0.008		WITH FOCAL TUBULAR DILATATION				
THYROIDS/PARATHY	0.0211	0.008		DILATATION, PELVIS				
FINAL BODY WT(G)	254.		LAC. GLAND EXOR	MICRO: INFILTRATE, MONONUCLEAR				
			LIVER	MICRO: INFILTRATE, MONONUCLEAR				
			OVARIES	MICRO: DECREASED CORPORA LUTEA				
				WITH LARGE TERTIARY FOLLICLES				
			SKIN	MICRO: INFILTRATE, MONONUCLEAR				
				SUPERFICIAL DERMIS				
			THYROID GLANDS	MICRO: ECTOPIC THYMUS				
			UTERUS	GROSS: CONTENTS, CLEAR FLUID				
				BOTH HORNS				
			^==>	UTERUS: HYPERPLASIA, ENDOMETRIAL				
			^==>	VAGINA: HYPERPLASIA, SQUAMOUS EPITHELIUM				
			UTERUS	MICRO: HYPERPLASIA, ENDOMETRIAL				
			VAGINA	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM				
				CONSISTENT WITH PERSISTENT ESTRUS, SENESCENCE				

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INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11119 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

CERVIX	MICRO: HYPERPLASIA, SQUAMOUS EPITHELIUM	2
	CONSISTENT WITH PERSISTENT ESTRUS, SENESENCE	
DIAPHRAGM	GROSS: HERNIA	P
	CAUDATE LOBE OF LIVER PROTRUDES INTO THORACIC CAVITY	
	THROUGH AN OPENING IN THE DIAPHRAGM	
^==>	DIAPHRAGM: NO SIGNIFICANT CHANGES OBSERVED	
DIAPHRAGM	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
	NO MORPHOLOGIC ABNORMALITIES WHERE LIVER EXTENDS INTO	
	THE THORACIC CAVITY THROUGH THE DIAPHRAGM.	
SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
	SUPERFICIAL DERMIS	
NO SIGNIFICANT	GROSS:ADRENAL GLANDS	
CHANGES OBSERVED	JOINT	
	DUODENUM	
	HEART	
	LAC. GLAND EXOR	
	MAMMARY GLAND	
	PANCREAS	
	SAL. GLAND MAND	
	SPLEEN	
	URINARY BLADDER	
	SKIN, UNTREATED	
	MICRO:ADRENAL CORTEX	
	MARROW, STERN	
	BRAIN	
	ESOPHAGUS	
	JEJUNUM	
	AORTA	
	BRAIN	
	ESOPHAGUS	
	ILEUM	
	LN, MANDIBULAR	
	STERNUM	
	CECUM	
	EYES	
	JEJUNUM	
	LN, MESENTERIC	
	LUNGS	
	OVARIES	
	SPINAL CORD	
	SKIN	
	THYMUS	
	CERVIX	
	ADRENAL MEDULLA	
	FEMUR	
	MARROW, FEMUR	
	COLON	
	NERVES, OPTIC	
	LN, MESENTERIC	
	STERNUM	
	JOINT	
	DUODENUM	
	ILEUM	
	LUNGS	

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A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11119 GROUP 4: 300 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MAMMARY GLAND NERVE, SCIATIC OVIDUCTS PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
PARATHYROID THYMUS TRACHEA URINARY BLADDER
DIAPHRAGM LN, AXILLARY SKIN, TREATED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11062 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	1.86	0.778	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	6.74	2.820		SUPERFICIAL DERMIS				
KIDNEYS	1.51	0.632	PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
SPLEEN	0.43	0.180		ONE OF PAIR NOT IN THE PLANE OF SECTION				
HEART	1.02	0.427	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.40	0.167	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2574	0.108		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1156	0.048	NO SIGNIFICANT					
ADRENAL GLANDS	0.0696	0.029	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
PITUITARY	0.0167	0.007		JOINT	BRAIN	CECUM	COLON	
THYROID/PARATHY	0.0177	0.007		DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
FINAL BODY WT(G)	239.			HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND	
				NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS	
				PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND	
				STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	THYROID GLANDS	

ANIMAL NO.11062GROUP 5: 600 MG/KG/DAYFEMALESCHEDULED EUTH08/06/11DATE OF DEATH: 08/06/11STUDY DAY: 89

GRADE

PARATHYROIDSUTERUSTHYMUSCERVIXTRACHEA LN, AXILLARYURINARY BLADDER SKIN, UNTREATED

NOT PRESENT FOR EXAMINATION

MICRO:SPLEEN

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11065 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED			
BRAIN	1.78	0.599		ONE OF PAIR NOT IN THE PLANE OF SECTION			
LIVER	9.13	3.074	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS			
KIDNEYS	2.10	0.707		EARLY			
SPLEEN	0.60	0.202	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR			
HEART	1.33	0.448		SUPERFICIAL DERMIS			
UTERUS	0.62	0.209	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR			
THYMUS	0.2982	0.100		SUPERFICIAL DERMIS			
OVARIES/OVIDUCTS	0.1414	0.048		INFILTRATE, HISTIOCYTE			
ADRENAL GLANDS	0.0577	0.019		WITH MULTINUCLEATED GIANT CELLS			
PITUITARY	0.0173	0.006	NO SIGNIFICANT				
THYROIDS/PARATHY	0.0127	0.004	CHANGES OBSERVED				
FINAL BODY WT(G)	297.			GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR
				JOINT	BRAIN	CECUM	COLON
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
				HEART	ILEUM	JEJUNUM	KIDNEYS
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
				OVARIES	PANCREAS	PITUITARY	RECTUM
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
				SKIN	SPLEEN	THYROID GLANDS	THYMUS
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
				BRAIN	CECUM	COLON	DUODENUM
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11065 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

LAC. GLAND EXOR LIVER LN, MESENTERIC LUNGS
MAMMARY GLAND NERVE, SCIATIC OVIDUCTS OVARIES
PANCREAS PITUITARY RECTUM SPINAL CORD
SAL. GLAND MAND STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE
SKIN SPLEEN THYROID GLANDS PARATHYROIDS
THYMUS TRACHEA URINARY BLADDER UTERUS
CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11096 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	1.79	0.628	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
LIVER	8.40	2.947		SUPERFICIAL DERMIS				
KIDNEYS	1.82	0.639	PARATHYROIDS	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
SPLEEN	0.51	0.179		ONE OF PAIR NOT IN THE PLANE OF SECTION				
HEART	1.07	0.375	UTERUS	MICRO: DILATATION, LUMEN				2
UTERUS	0.80	0.281	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS				P
THYMUS	0.2654	0.093	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.1161	0.041		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0835	0.029	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0185	0.006		SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0135	0.005	NO SIGNIFICANT					
FINAL BODY WT(G)	285.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELTAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11096 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

LAC. GLAND EXOR LN, MESENTERIC LUNGS MAMMARY GLAND
NERVE, SCIATIC OVIDUCTS OVARIES PANCREAS
PITUITARY RECTUM SPINAL CORD SAL. GLAND MAND
STOMACH, GLAN STOMACH, NON SKELETAL MUSCLE SPLEEN
THYROID GLANDS PARATHYROIDES THYMUS TRACHEA
URINARY BLADDER CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11081 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	2.14	0.690	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
LIVER	9.63	3.106		PARS NERVOSA NOT IN THE PLANE OF SECTION				
KIDNEYS	2.30	0.742	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.68	0.219		SUPERFICIAL DERMIS				
HEART	1.30	0.419	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.45	0.145		EARLY				
THYMUS	0.3426	0.111	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
OVARIES/OVIDUCTS	0.1349	0.044		SUPERFICIAL DERMIS				
ADRENAL GLANDS	0.0635	0.020	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0236	0.008		SUPERFICIAL DERMIS				
THYROIDS/PARATHY	0.0176	0.006	NO SIGNIFICANT					
FINAL BODY WT(G)	310.		CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELTAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	HEART	ILEUM	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11081 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

JEJUNUM KIDNEYS LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN THYROID GLANDS
THYMUS TRACHEA URINARY BLADDER UTERUS
CERVIX LN, AXILLARY

NOT PRESENT FOR EXAMINATION

MICRO:NERVES, OPTIC PARATHYROIDES

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11095 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/06/11 DATE OF DEATH: 08/06/11 STUDY DAY: 89
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
BRAIN	1.67	0.668	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
LIVER	7.86	3.144		PARS NERVOSA NOT IN THE PLANE OF SECTION				
KIDNEYS	1.50	0.600	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
SPLEEN	0.41	0.164		SUPERFICIAL DERMIS				
HEART	0.95	0.380	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
UTERUS	0.49	0.196	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
THYMUS	0.2806	0.112		SUPERFICIAL DERMIS				
OVARIES/OVIDUCTS	0.1147	0.046	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
ADRENAL GLANDS	0.0597	0.024		SUPERFICIAL DERMIS				
PITUITARY	0.0199	0.008	NO SIGNIFICANT					
THYROIDS/PARATHY	0.0132	0.005	CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
FINAL BODY WT(G)	250.			JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
				MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM	
				MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT	
				BRAIN	CECUM	COLON	DUODENUM	
				ESOPHAGUS	EYES	NERVES, OPTIC	HEART	
				ILEUM	JEJUNUM	KIDNEYS	LN, MANDIBULAR	
				LAC. GLAND EXOR	LN, MESENTERIC	LUNGS	MAMMARY GLAND	

ANIMAL NO.11095GROUP 5: 600 MG/KG/DAYFEMALESCHEDULED EUTH08/06/11DATE OF DEATH: 08/06/11STUDY DAY: 89

GRADE

NERVE, SCIATIC
PITUITARY
STOMACH, GLAN
THYROID GLANDS
URINARY BLADDER

OVIDUCTS
RECTUM
STOMACH, NON
PARATHYROID
UTERUS

OVARIES
SPINAL CORD
SKELETAL MUSCLE
THYMUS
CERVIX

PANCREAS
SAL. GLAND MAND
SPLEEN
TRACHEA
LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT

()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11097 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
BRAIN	2.14	0.775	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
LIVER	8.88	3.217	PANCREAS	MICRO: FIBROPLASIA, ISLETS	(1)
KIDNEYS	1.88	0.681	UTERUS	GROSS: CONTENTS, CLEAR FLUID	P
SPLEEN	0.56	0.203		BOTH HORNS	
HEART	1.09	0.395	^==>	UTERUS: DILATATION, LUMEN	
UTERUS	0.89	0.322	^==>	VAGINA: ESTROUS CYCLE: PROESTRUS	
THYMUS	0.2484	0.090	UTERUS	MICRO: DILATATION, LUMEN	3
OVARIES/OVIDUCTS	0.1198	0.043	VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS	P
ADRENAL GLANDS	0.0782	0.028	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
PITUITARY	0.0198	0.007		SUPERFICIAL DERMIS	
THYROID/SPARATHY	0.0144	0.005	SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	1
FINAL BODY WT(G)	276.			SUPERFICIAL DERMIS	
			NO SIGNIFICANT		
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS	
				JOINT	
				DUODENUM	
				HEART	
				LN, MANDIBULAR	
				LUNGS	
				OVARIES	
				SPINAL CORD	
				SKIN	
				TRACHEA	
				LN, AXILLARY	
				MICRO:ADRENAL CORTEX	
				MARROW, STERN	
				BRAIN	
				ESOPHAGUS	
				ILEUM	
				AORTA	
				BRAIN	
				ESOPHAGUS	
				JEJUNUM	
				STERNUM	
				CECUM	
				EYES	
				JEJUNUM	
				LIVER	
				NERVE, SCIATIC	
				PITUITARY	
				STOMACH	
				THYROID GLANDS	
				VAGINA	
				SKIN, TREATED	
				AORTA	
				MARROW, FEMUR	
				COLON	
				NERVES, OPTIC	
				LN, MANDIBULAR	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				LN, MANDIBULAR	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				LN, MANDIBULAR	
				FEMUR	
				COLON	
				NERVES, OPTIC	
				LN, MANDIBULAR	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11097 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PITUITARY RECTUM
SPINAL CORD SAL. GLAND MAND STOMACH, GLAN STOMACH, NON
SKELETAL MUSCLE SKIN SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11104	GROUP	5: 600 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY					P
BRAIN	1.99	0.713		MANDIBULAR SALIVARY GLAND, LEFT					
LIVER	8.56	3.068	KIDNEYS	MICRO: MINERALIZATION					(1)
KIDNEYS	2.13	0.763		PELVIC UROTHELIUM (RIGHT) WITH MINIMAL INFLAMMATION					
SPLEEN	0.66	0.237	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
HEART	1.07	0.384	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
UTERUS	0.43	0.154		SUPERFICIAL DERMIS					
THYMUS	0.3182	0.114	THYROID GLANDS	GROSS: DISCOLORATION, DARK RED					P
OVARIES/OVIDUCTS	0.1257	0.045		BILATERAL					
ADRENAL GLANDS	0.0632	0.023	^==> GROSS	UNCONFIRMED					
PITUITARY	0.0219	0.008	THYMUS	GROSS: AREA(S), DARK RED					P
THYROID/SPARATHY	0.0152	0.005		MULTIPLE, IRREGULARLY SHAPED					
FINAL BODY WT(G)	279.		^==>	THYMUS: HEMORRHAGE					
			THYMUS	MICRO: HEMORRHAGE					((2))
			VAGINA	MICRO: MUCIFICATION					2
			CERVIX	MICRO: MUCIFICATION					1
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT						
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS					
				JOINT					
				DUODENUM					
				HEART					
				LN, MANDIBULAR					
				LUNGS					
				OVARIES					
				AORTA					
				BRAIN					
				ESOPHAGUS					
				ILEUM					
				LAC. GLAND EXOR					
				MAMMARY GLAND					
				PANCREAS					
				STERNUM					
				CECUM					
				EYES					
				JEJUNUM					
				LIVER					
				NERVE, SCIATIC					
				PITUITARY					
				FEMUR					
				COLON					
				NERVES, OPTIC					
				KIDNEYS					
				LN, MESENTERIC					
				OVIDUCTS					
				RECTUM					

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11104 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
SKIN	SPLEEN	TRACHEA	URINARY BLADDER
UTERUS	VAGINA	CERVIX	LN, AXILLARY
SKIN, UNTREATED	SKIN, TREATED		
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
PARATHYROIDS	TRACHEA	URINARY BLADDER	UTERUS
LN, AXILLARY			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO.	11112	GROUP	5: 600 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90	GRADE
ORGAN WEIGHT	ABS.(G)	REL.	EYES	MICRO: ROSETTE, RETINA					((P))
BRAIN	1.97	0.746	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED					
LIVER	8.47	3.208		ONE OF PAIR NOT IN THE PLANE OF SECTION					
KIDNEYS	2.07	0.784	HEART	MICRO: CARDIOMYOPATHY					((1))
SPLEEN	0.78	0.295		LEFT VENTRICLE, RIGHT ATRIUM					
HEART	1.21	0.458	KIDNEYS	MICRO: MINERALIZATION					((1))
UTERUS	1.06	0.402		JUNCTION OF INNER AND OUTER MEDULLA					
THYMUS	0.1662	0.063	LIVER	MICRO: INFILTRATE, MONONUCLEAR					((1))
OVARIES/OVIDUCTS	0.1332	0.050	LUNGS	MICRO: MACROPHAGES, ALVEOLAR					((2))
ADRENAL GLANDS	0.0721	0.027		WITH BROWN PIGMENT OR EOSINOPHILIC CRYSTALS					
PITUITARY	0.0169	0.006	SKIN	MICRO: INFILTRATE, MONONUCLEAR					1
THYROIDS/PARATHY	0.0154	0.006		SUPERFICIAL DERMIS					
FINAL BODY WT(G)	264.		THYMUS	MICRO: HEMORRHAGE					((1))
			UTERUS	GROSS: CONTENTS, CLEAR FLUID					P
				BOTH HORNS					
			^==>	UTERUS: DILATATION, LUMEN					
			^==>	VAGINA: ESTROUS CYCLE: PROESTRUS					
			UTERUS	MICRO: DILATATION, LUMEN					3
			VAGINA	MICRO: ESTROUS CYCLE: PROESTRUS					P
			SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR					1
				SUPERFICIAL DERMIS					
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR					2
				SUPERFICIAL DERMIS					
			NO SIGNIFICANT						
			CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR		

ANIMAL NO.	11112	GROUP	5: 600 MG/KG/DAY	FEMALE	SCHEDULED EUTH	08/07/11	DATE OF DEATH: 08/07/11	STUDY DAY: 90
								GRADE

JOINT	BRAIN	CECUM	COLON
DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC
HEART	ILEUM	JEJUNUM	KIDNEYS
LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC
LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS
OVARIES	PANCREAS	PITUITARY	RECTUM
SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE
SKIN	SPLEEN	THYROID GLANDS	THYMUS
TRACHEA	URINARY BLADDER	VAGINA	CERVIX
LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	NERVES, OPTIC	ILEUM	JEJUNUM
LN, MANDIBULAR	LAC. GLAND EXOR	LN, MESENTERIC	MAMMARY GLAND
NERVE, SCIATIC	OVIDUCTS	OVARIES	PANCREAS
PITUITARY	RECTUM	SPINAL CORD	SAL. GLAND MAND
STOMACH, GLAN	STOMACH, NON	SKELETAL MUSCLE	SPLEEN
THYROID GLANDS	TRACHEA	URINARY BLADDER	CERVIX
LN, AXILLARY			

NOT PRESENT FOR EXAMINATION

MICRO:PARATHYROIDS

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
 ()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED
 ^==> INDICATES MICRO CONFIRMATION OF ABOVE GROSS FINDING

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11117 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	NERVES, OPTIC	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
BRAIN	1.87	0.693		ONE OF PAIR NOT IN THE PLANE OF SECTION	
LIVER	7.63	2.826	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE	((1))
KIDNEYS	1.93	0.715		MINERALIZATION	((1))
SPLEEN	0.42	0.156		JUNCTION OF INNER AND OUTER MEDULLA	
HEART	1.09	0.404	LIVER	MICRO: INFILTRATE, MONONUCLEAR	((1))
UTERUS	0.52	0.193	PITUITARY	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
THYMUS	0.2218	0.082		PARS NERVOSA NOT IN THE PLANE OF SECTION	
OVARIES/OVIDUCTS	0.1158	0.043	SKIN	MICRO: INFILTRATE, MONONUCLEAR	1
ADRENAL GLANDS	0.0593	0.022	PARATHYROIDES	MICRO: NO SIGNIFICANT CHANGES OBSERVED	
PITUITARY	0.0205	0.008		ONE OF PAIR NOT IN THE PLANE OF SECTION	
THYROIDES/PARATHY	0.0137	0.005	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS	P
FINAL BODY WT(G)	270.		SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR	1
				SUPERFICIAL DERMIS	
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR	2
				SUPERFICIAL DERMIS	
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA
				JOINT	BRAIN
				DUODENUM	ESOPHAGUS
				HEART	ILEUM
				LN, MANDIBULAR	LAC. GLAND EXOR
				LUNGS	MAMMARY GLAND
				OVARIES	PANCREAS
				SPINAL CORD	SAL. GLAND MAND
				SKIN	SPLEEN
					STERNUM
					CECUM
					EYES
					JEJUNUM
					LIVER
					NERVE, SCIATIC
					PITUITARY
					STOMACH
					THYROID GLANDS
					FEMUR
					COLON
					NERVES, OPTIC
					KIDNEYS
					LN, MESENTERIC
					OVIDUCTS
					RECTUM
					SKELETAL MUSCLE
					THYMUS

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

PAGE 197

ANIMAL NO. 11117 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

TRACHEA	URINARY BLADDER	UTERUS	VAGINA
CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED
MICRO:ADRENAL CORTEX	ADRENAL MEDULLA	AORTA	STERNUM
MARROW, STERN	FEMUR	MARROW, FEMUR	JOINT
BRAIN	CECUM	COLON	DUODENUM
ESOPHAGUS	EYES	NERVES, OPTIC	HEART
ILEUM	JEJUNUM	LN, MANDIBULAR	LAC. GLAND EXOR
LN, MESENTERIC	LUNGS	MAMMARY GLAND	NERVE, SCIATIC
OVIDUCTS	OVARIES	PANCREAS	PITUITARY
RECTUM	SPINAL CORD	SAL. GLAND MAND	STOMACH, GLAN
STOMACH, NON	SKELETAL MUSCLE	SPLEEN	THYROID GLANDS
PARATHYROIDS	THYMUS	TRACHEA	URINARY BLADDER
UTERUS	CERVIX	LN, AXILLARY	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11118 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

ORGAN WEIGHT	ABS.(G)	REL.	GENERAL COMMENT	GROSS: ORGAN DAMAGED AT NECROPSY				P
BRAIN	1.91	0.796		OPTIC NERVE, RIGHT				
LIVER	7.60	3.167	KIDNEYS	MICRO: NEPHROPATHY, CHRONIC PROGRESSIVE				((1))
KIDNEYS	1.83	0.763	LIVER	MICRO: INFILTRATE, MONONUCLEAR				((1))
SPLEEN	0.58	0.242	SKIN	MICRO: INFILTRATE, MONONUCLEAR				1
HEART	1.05	0.438		SUPERFICIAL DERMIS				
UTERUS	0.62	0.258	PARATHYROID	MICRO: NO SIGNIFICANT CHANGES OBSERVED				
THYMUS	0.2200	0.092		ONE OF PAIR NOT IN THE PLANE OF SECTION				
OVARIES/OVIDUCTS	0.1459	0.061	VAGINA	MICRO: ESTROUS CYCLE: DIESTRUS				P
ADRENAL GLANDS	0.0725	0.030	SKIN, UNTREATED	MICRO: INFILTRATE, MONONUCLEAR				1
PITUITARY	0.0222	0.009		SUPERFICIAL DERMIS				
THYROID/PARATHY	0.0123	0.005		INFILTRATE, HISTIOCYTE				(1)
FINAL BODY WT(G)	240.			SUPERFICIAL DERMIS				
			SKIN, TREATED	MICRO: INFILTRATE, MONONUCLEAR				1
				SUPERFICIAL DERMIS				
			NO SIGNIFICANT CHANGES OBSERVED	GROSS:ADRENAL GLANDS	AORTA	STERNUM	FEMUR	
				JOINT	BRAIN	CECUM	COLON	
				DUODENUM	ESOPHAGUS	EYES	NERVES, OPTIC	
				HEART	ILEUM	JEJUNUM	KIDNEYS	
				LN, MANDIBULAR	LAC. GLAND EXOR	LIVER	LN, MESENTERIC	
				LUNGS	MAMMARY GLAND	NERVE, SCIATIC	OVIDUCTS	
				OVARIES	PANCREAS	PITUITARY	RECTUM	
				SPINAL CORD	SAL. GLAND MAND	STOMACH	SKELETAL MUSCLE	
				SKIN	SPLEEN	THYROID GLANDS	THYMUS	
				TRACHEA	URINARY BLADDER	UTERUS	VAGINA	
				CERVIX	LN, AXILLARY	SKIN, UNTREATED	SKIN, TREATED	

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A14
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL MACROSCOPIC AND MICROSCOPIC FINDINGS

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ANIMAL NO. 11118 GROUP 5: 600 MG/KG/DAY FEMALE SCHEDULED EUTH 08/07/11 DATE OF DEATH: 08/07/11 STUDY DAY: 90
GRADE

MICRO:ADRENAL CORTEX ADRENAL MEDULLA AORTA STERNUM
MARROW, STERN FEMUR MARROW, FEMUR JOINT
BRAIN CECUM COLON DUODENUM
ESOPHAGUS EYES NERVES, OPTIC HEART
ILEUM JEJUNUM LN, MANDIBULAR LAC. GLAND EXOR
LN, MESENTERIC LUNGS MAMMARY GLAND NERVE, SCIATIC
OVIDUCTS OVARIES PANCREAS PITUITARY
RECTUM SPINAL CORD SAL. GLAND MAND STOMACH, GLAN
STOMACH, NON SKELETAL MUSCLE SPLEEN THYROID GLANDS
PARATHYROIDS THYMUS TRACHEA URINARY BLADDER
UTERUS CERVIX LN, AXILLARY

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

MICRO GRADE CODE: 1-MINIMAL; 2-MILD; 3-MODERATE; 4-SEVERE; P-PRESENT
()-FOCAL/SOLITARY, (())-MULTIFOCAL/MULTIPLE, NO PARENTHESES-NOT SPECIFIED

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PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

PAGE 1

MALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11011	431.	2.07	12.03	2.83	0.89	1.57	3.16
11012	521.	2.19	13.36	3.33	0.88	1.58	3.50
11013	480.	2.07	12.09	3.64	0.85	1.34	3.63
11015	419.	2.07	10.39	2.89	0.73	1.58	3.85
11021	510.	2.12	16.36	3.68	0.90	1.88	3.82
11022	522.	2.08	12.78	3.59	0.73	1.64	3.33
11026	429.	2.07	12.21	3.24	0.74	1.38	3.61
11040	477.	2.11	12.44	3.18	0.82	1.34	3.81
11044	503.	2.16	13.46	3.59	0.72	1.41	3.60
11053	455.	2.29	12.05	3.58	0.88	1.66	3.59
MEAN	475.	2.12	12.72	3.36	0.81	1.54	3.59
S.D.	39.4	0.072	1.538	0.313	0.076	0.172	0.219
S.E.	12.4	0.023	0.486	0.099	0.024	0.054	0.069
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

PAGE 2

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11001	486.	2.23	13.28	3.42	0.78	1.64	3.90
11009	476.	2.14	12.54	3.35	0.76	1.36	3.73
11010	481.	2.14	12.10	3.04	0.86	1.59	3.71
11014	460.	2.12	12.59	3.24	0.74	1.61	3.72
11029	519.	2.21	14.71	3.67	0.85	2.06	3.84
11033	464.	2.16	12.27	3.18	0.75	1.48	3.10
11037	483.	2.00	13.52	3.23	0.85	1.59	3.34
11046	462.	2.00	11.89	3.13	0.83	1.44	3.23
11052	412.	2.01	9.32	2.84	0.73	1.60	3.62
11057	424.	1.96	12.32	3.24	0.85	1.39	3.25
MEAN	467.	2.10	12.45	3.23	0.80	1.58	3.54
S.D.	30.8	0.096	1.384	0.222	0.053	0.197	0.286
S.E.	9.7	0.031	0.438	0.070	0.017	0.062	0.090
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

PAGE 3

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11006	462.	2.15	12.40	3.10	0.64	1.62	3.36
11019	476.	2.09	12.74	3.33	0.77	1.56	3.58
11020	421.	2.05	12.46	3.44	0.69	1.44	3.39
11025	444.	2.16	11.35	3.13	0.69	1.55	3.33
11028	518.	2.15	14.31	3.61	0.80	1.72	3.45
11045	512.	2.24	12.86	3.24	0.90	1.60	3.40
11047	413.	2.04	10.10	2.65	0.66	1.40	2.79
11048	473.	2.13	12.26	3.33	0.87	1.39	3.34
11050	491.	2.09	12.32	3.57	1.03	1.79	3.18
11054	432.	1.99	12.20	2.89	0.90	1.57	3.30
MEAN	464.	2.11	12.30	3.23	0.80	1.56	3.31
S.D.	36.6	0.072	1.072	0.299	0.128	0.130	0.210
S.E.	11.6	0.023	0.339	0.094	0.041	0.041	0.067
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

PAGE 4

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11003	503.	2.18	14.24	3.43	0.82	1.61	3.68
11005	502.	2.21	14.32	3.31	0.82	2.11	3.36
11007	498.	2.05	15.37	3.57	0.78	1.62	3.42
11008	476.	2.11	11.51	3.30	0.90	1.53	3.90
11017	449.	2.11	11.60	3.13	0.82	1.53	3.81
11018	468.	2.06	12.47	3.34	0.79	1.49	3.49
11027	468.	2.27	11.98	3.16	0.71	1.63	3.67
11031	493.	2.07	12.86	3.31	0.78	1.65	3.56
11038	474.	2.10	12.48	3.31	0.74	1.39	3.99
11043	516.	2.10	12.58	3.05	0.71	1.63	3.57
MEAN	485.	2.13	12.94	3.29	0.79	1.62	3.65
S.D.	20.8	0.071	1.284	0.150	0.058	0.191	0.206
S.E.	6.6	0.023	0.406	0.047	0.018	0.060	0.065
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

PAGE 5

MALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11024	428.	2.01	12.64	3.25	0.67	1.43	3.22
11030	437.	2.04	11.83	3.04	0.80	1.57	3.46
11034	445.	2.00	12.32	3.25	0.78	1.49	3.77
11035	405.	2.07	12.21	2.73	0.54	1.46	3.47
11004	478.	2.13	12.89	3.45	0.83	1.45	3.63
11042	465.	2.18	11.22	3.60	0.79	1.54	3.62
11049	503.	2.05	14.66	3.53	0.78	1.56	3.36
11058	458.	2.00	12.17	3.42	0.56	1.65	2.99
11059	496.	2.11	14.08	3.69	1.09	1.62	3.70
11060	447.	2.13	11.79	3.23	0.72	1.43	1.70
MEAN	456.	2.07	12.58	3.32	0.76	1.52	3.29
S.D.	30.4	0.063	1.059	0.285	0.155	0.080	0.607
S.E.	9.6	0.020	0.335	0.090	0.049	0.025	0.192
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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MALE GROUP: UNTREATED

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11011	1.26	1.22	0.2367	0.0612	0.0153	0.0126
11012	1.36	0.99	0.3836	0.0540	0.0146	0.0176
11013	1.36	1.08	0.3800	0.0597	0.0151	0.0200
11015	1.43	1.06	0.2286	0.0564	0.0117	0.0208
11021	1.33	0.99	0.3261	0.0570	0.0131	0.0208
11022	1.26	1.25	0.2443	0.0692	0.0146	0.0143
11026	1.44	0.54	0.2162	0.0694	0.0124	0.0157
11040	1.35	1.26	0.3055	0.0572	0.0132	0.0195
11044	1.58	1.21	0.1879	0.0669	0.0138	0.0181
11053	1.54	1.31	0.3042	0.0688	0.0150	0.0212
MEAN	1.39	1.09	0.2813	0.0620	0.0139	0.0181
S.D.	0.107	0.226	0.06865	0.00602	0.00124	0.00299
S.E.	0.034	0.071	0.02171	0.00190	0.00039	0.00095
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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MALE GROUP: 0 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11001	1.56	0.93	0.4111	0.0558	0.0133	0.0150
11009	1.29	1.16	0.2462	0.0910	0.0148	0.0209
11010	1.41	1.02	0.2489	0.0609	0.0139	0.0260
11014	1.45	1.04	0.2113	0.0634	0.0176	0.0183
11029	1.47	0.80	0.3174	0.0668	0.0191	0.0204
11033	1.27	1.07	0.2439	0.0552	0.0148	0.0185
11037	1.34	1.06	0.3783	0.0555	0.0154	0.0107
11046	1.15	1.30	0.2026	0.0706	0.0136	0.0118
11052	1.45	1.02	0.1610	0.0623	0.0122	0.0144
11057	1.31	1.11	0.2369	0.0690	0.0145	0.0200
MEAN	1.37	1.05	0.2658	0.0651	0.0149	0.0176
S.D.	0.120	0.132	0.07914	0.01067	0.00205	0.00465
S.E.	0.038	0.042	0.02503	0.00337	0.00065	0.00147
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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MALE GROUP: 100 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11006	1.27	0.90	0.2062	0.0766	0.0135	0.0207
11019	1.25	0.81	0.2678	0.0545	0.0144	0.0119
11020	1.54	1.01	0.2070	0.0607	0.0154	0.0184
11025	1.22	0.91	0.1719	0.0627	0.0113	0.0164
11028	1.39	0.92	0.2200	0.0585	0.0179	0.0192
11045	1.45	0.80	0.1428	0.0665	0.0143	0.0196
11047	1.33	0.98	0.2040	0.0705	0.0135	0.0135
11048	1.41	1.10	0.3250	0.0677	0.0153	0.0173
11050	1.30	1.25	0.3067	0.0763	0.0152	0.0207
11054	1.42	0.72	0.1487	0.0658	0.0188	0.0197
MEAN	1.36	0.94	0.2200	0.0660	0.0150	0.0177
S.D.	0.101	0.155	0.06218	0.00722	0.00216	0.00301
S.E.	0.032	0.049	0.01966	0.00228	0.00068	0.00095
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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MALE GROUP: 300 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11003	1.36	0.84	0.3018	0.0601	0.0139	0.0300
11005	1.25	0.96	0.2513	0.0511	0.0150	0.0175
11007	1.24	0.92	0.3539	0.0584	0.0146	0.0166
11008	1.32	1.10	0.2583	0.0681	0.0148	0.0242
11017	1.42	1.16	0.2192	0.0662	0.0149	0.0170
11018	1.18	0.72	0.2359	0.0674	0.0160	0.0176
11027	1.27	1.01	0.1713	0.0592	0.0143	0.0186
11031	1.36	1.33	0.2232	0.0637	0.0152	0.0129
11038	1.37	0.95	0.1736	0.0554	0.0141	0.0170
11043	1.30	1.29	0.1572	0.0611	0.0151	0.0234
MEAN	1.31	1.03	0.2346	0.0611	0.0148	0.0195
S.D.	0.073	0.193	0.06117	0.00543	0.00061	0.00495
S.E.	0.023	0.061	0.01934	0.00172	0.00019	0.00157
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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MALE GROUP: 600 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11024	1.27	1.13	0.1927	0.0449	0.0135	0.0286
11030	1.49	1.08	0.2131	0.0759	0.0166	0.0156
11034	1.31	0.98	0.2007	0.0689	0.0157	0.0214
11035	1.33	0.59	0.1455	0.0573	0.0100	0.0147
11004	1.39	0.83	0.2999	0.0492	0.0153	0.0178
11042	1.38	1.04	0.2509	0.0648	0.0159	0.0304
11049	1.30	0.82	0.2250	0.0547	0.0167	0.0150
11058	1.13	1.23	0.2454	0.0579	0.0121	0.0203
11059	1.43	1.00	0.3527	0.0725	0.0147	0.0160
11060	0.65	1.02	0.1811	0.0616	0.0117	0.0191
MEAN	1.27	0.97	0.2307	0.0608	0.0142	0.0199
S.D.	0.238	0.183	0.06028	0.00996	0.00229	0.00556
S.E.	0.075	0.058	0.01906	0.00315	0.00073	0.00176
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
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TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11069	278.	1.96	7.52	2.01	0.52	1.09
11082	271.	1.96	8.19	2.03	0.65	1.17
11088	284.	1.73	7.26	1.77	0.43	0.88
11089	303.	1.98	7.65	1.96	0.74	1.26
11090	272.	2.06	7.19	1.84	0.52	1.10
11091	282.	1.92	8.06	2.07	0.62	1.03
11092	268.	1.78	7.24	1.83	0.51	1.03
11093	322.	1.86	7.72	1.79	0.60	1.03
11098	266.	1.86	7.14	1.78	0.58	1.00
11115	267.	2.04	7.20	1.99	0.44	1.06
MEAN	281.	1.92	7.52	1.91	0.56	1.07
S.D.	18.1	0.107	0.380	0.116	0.096	0.102
S.E.	5.7	0.034	0.120	0.037	0.030	0.032
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11114	269.	1.93	7.64	1.68	0.44	1.04
11070	275.	1.88	8.74	1.99	0.60	1.04
11074	274.	1.84	9.11	2.12	0.54	1.10
11079	242.	1.65	7.74	1.59	0.46	1.01
11084	255.	1.86	7.54	1.72	0.52	0.97
11087	309.	1.84	8.66	1.87	0.58	1.08
11099	284.	1.95	8.88	2.16	0.63	1.08
11110	253.	1.98	7.04	1.77	0.48	1.01
11111	252.	1.98	7.26	1.87	0.67	0.91
11116	237.	1.75	7.60	1.72	0.43	1.21
MEAN	265.	1.87	8.02	1.85	0.54	1.05
S.D.	21.7	0.105	0.747	0.190	0.083	0.081
S.E.	6.8	0.033	0.236	0.060	0.026	0.026
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11071	295.	1.99	8.35	1.98	0.63	1.03
11072	240.	1.96	6.31	1.55	0.50	0.92
11073	263.	1.94	7.94	1.79	0.48	1.13
11076	272.	1.82	7.53	1.94	0.52	1.08
11078	232.	1.91	6.34	1.66	0.41	0.88
11083	294.	1.98	7.92	1.93	0.53	1.05
11086	278.	1.97	7.99	2.23	0.67	1.04
11101	284.	1.99	9.56	2.40	0.60	1.18
11102	272.	1.94	8.03	1.89	0.56	1.20
11113	248.	1.91	6.74	1.64	0.47	0.97
MEAN	268.	1.94	7.67	1.90	0.54	1.05
S.D.	21.9	0.052	0.995	0.264	0.079	0.105
S.E.	6.9	0.016	0.315	0.084	0.025	0.033
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11066	260.	1.90	8.86	1.84	0.61	1.13
11075	276.	1.99	7.89	1.89	0.48	1.05
11077	266.	1.97	9.46	1.95	0.58	1.12
11080	227.	1.95	6.88	1.87	0.48	1.00
11085	280.	1.89	8.34	1.77	0.67	1.03
11094	259.	1.95	8.42	1.88	0.50	1.07
11103	285.	2.00	9.16	2.01	0.61	1.14
11105	279.	1.95	7.93	1.99	0.54	1.13
11106	264.	1.87	7.50	1.93	0.55	0.99
11119	254.	1.77	7.69	2.00	0.48	1.04
MEAN	265.	1.92	8.21	1.91	0.55	1.07
S.D.	16.9	0.069	0.794	0.077	0.066	0.057
S.E.	5.3	0.022	0.251	0.024	0.021	0.018
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11062	239.	1.86	6.74	1.51	0.43	1.02
11065	297.	1.78	9.13	2.10	0.60	1.33
11096	285.	1.79	8.40	1.82	0.51	1.07
11081	310.	2.14	9.63	2.30	0.68	1.30
11095	250.	1.67	7.86	1.50	0.41	0.95
11097	276.	2.14	8.88	1.88	0.56	1.09
11104	279.	1.99	8.56	2.13	0.66	1.07
11112	264.	1.97	8.47	2.07	0.78	1.21
11117	270.	1.87	7.63	1.93	0.42	1.09
11118	240.	1.91	7.60	1.83	0.58	1.05
MEAN	271.	1.91	8.29	1.91	0.56	1.12
S.D.	23.5	0.152	0.848	0.259	0.123	0.123
S.E.	7.4	0.048	0.268	0.082	0.039	0.039
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

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SPONSOR:AMERICAN PETROLEUM

TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: UNTREATED

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11069	0.57	0.2194	0.1486	0.0525	0.0191	0.0155
11082	0.51	0.2585	0.0897	0.0808	0.0235	0.0179
11088	0.82	0.2191	0.1142	0.0549	0.0201	0.0113
11089	0.89	0.2743	0.1679	0.0754	0.0237	0.0169
11090	0.71	0.2637	0.1263	0.0666	0.0203	0.0166
11091	0.82	0.2677	0.0831	0.0767	0.0293	0.0151
11092	0.77	0.2456	0.1037	0.0670	0.0189	0.0146
11093	0.51	0.2806	0.1188	0.0490	0.0228	0.0194
11098	0.75	0.2098	0.1240	0.0597	0.0187	0.0131
11115	0.44	0.2145	0.1275	0.0728	0.0232	0.0140
MEAN	0.68	0.2453	0.1204	0.0655	0.0220	0.0154
S.D.	0.158	0.02722	0.02539	0.01106	0.00326	0.00237
S.E.	0.050	0.00861	0.00803	0.00350	0.00103	0.00075
N	10	10	10	10	10	10

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TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11114	0.39	0.3719	0.1280	0.0626	0.0178	0.0143
11070	0.74	0.2183	0.0961	0.0900	0.0228	0.0160
11074	0.69	0.1878	0.1328	0.0774	0.0204	0.0122
11079	0.67	0.2024	0.0678	0.0666	0.0281	0.0125
11084	0.62	0.3508	0.1100	0.0734	0.0159	0.0148
11087	0.97	0.3065	0.0909	0.0598	0.0236	0.0164
11099	0.55	0.1587	0.1251	0.0713	0.0180	0.0130
11110	0.56	0.2237	0.1283	0.0641	0.0218	0.0143
11111	0.42	0.1792	0.1423	0.0576	0.0184	0.0147
11116	0.78	0.1969	0.0974	0.0779	0.0230	0.0109
MEAN	0.64	0.2396	0.1119	0.0701	0.0210	0.0139
S.D.	0.172	0.07538	0.02336	0.00994	0.00361	0.00173
S.E.	0.055	0.02384	0.00739	0.00314	0.00114	0.00055
N	10	10	10	10	10	10

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TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11071	0.39	0.4075	0.1537	0.0689	0.0256	0.0156
11072	0.50	0.3486	0.1070	0.0590	0.0162	0.0174
11073	0.79	0.3952	0.1198	0.0619	0.0208	0.0151
11076	0.83	0.2252	0.1408	0.0604	0.0179	0.0107
11078	0.50	0.2042	0.0989	0.0615	0.0177	0.0142
11083	1.06	0.3614	0.1194	0.0642	0.0176	0.0184
11086	0.90	0.1930	0.1388	0.0604	0.0194	0.0115
11101	0.57	0.3083	0.1553	0.0822	0.0240	0.0170
11102	0.65	0.2983	0.1815	0.0843	0.0259	0.0144
11113	0.44	0.1407	0.1221	0.0711	0.0210	0.0134
MEAN	0.66	0.2882	0.1337	0.0674	0.0206	0.0148
S.D.	0.222	0.09252	0.02513	0.00922	0.00350	0.00248
S.E.	0.070	0.02926	0.00795	0.00291	0.00111	0.00079
N	10	10	10	10	10	10

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TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11066	0.91	0.2704	0.1227	0.0696	0.0185	0.0160
11075	0.50	0.2760	0.1178	0.0704	0.0223	0.0123
11077	0.88	0.1826	0.1519	0.0694	0.0201	0.0159
11080	0.54	0.2107	0.1060	0.0771	0.0211	0.0120
11085	0.43	0.4741	0.1418	0.0847	0.0174	0.0152
11094	0.57	0.1985	0.1169	0.0728	0.0263	0.0157
11103	0.49	0.2736	0.1482	0.0679	0.0207	0.0168
11105	0.63	0.2056	0.1394	0.0601	0.0144	0.0100
11106	0.33	0.1779	0.1336	0.0656	0.0168	0.0151
11119	1.16	0.2132	0.0873	0.0694	0.0211	0.0211
MEAN	0.64	0.2483	0.1266	0.0707	0.0199	0.0150
S.D.	0.258	0.08762	0.02029	0.00660	0.00331	0.00306
S.E.	0.082	0.02771	0.00642	0.00209	0.00105	0.00097
N	10	10	10	10	10	10

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TABLE A15
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS AND FINAL BODY WEIGHTS [G]

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FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11062	0.40	0.2574	0.1156	0.0696	0.0167	0.0177
11065	0.62	0.2982	0.1414	0.0577	0.0173	0.0127
11096	0.80	0.2654	0.1161	0.0835	0.0185	0.0135
11081	0.45	0.3426	0.1349	0.0635	0.0236	0.0176
11095	0.49	0.2806	0.1147	0.0597	0.0199	0.0132
11097	0.89	0.2484	0.1198	0.0782	0.0198	0.0144
11104	0.43	0.3182	0.1257	0.0632	0.0219	0.0152
11112	1.06	0.1662	0.1332	0.0721	0.0169	0.0154
11117	0.52	0.2218	0.1158	0.0593	0.0205	0.0137
11118	0.62	0.2200	0.1459	0.0725	0.0222	0.0123
MEAN	0.63	0.2619	0.1263	0.0679	0.0197	0.0146
S.D.	0.221	0.05173	0.01174	0.00868	0.00238	0.00190
S.E.	0.070	0.01636	0.00371	0.00274	0.00075	0.00060
N	10	10	10	10	10	10

POFBWv4.29
10/18/2011

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 1

MALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11011	431.	0.480	2.791	0.657	0.206	0.364	0.733
11012	521.	0.420	2.564	0.639	0.169	0.303	0.672
11013	480.	0.431	2.519	0.758	0.177	0.279	0.756
11015	419.	0.494	2.480	0.690	0.174	0.377	0.919
11021	510.	0.416	3.208	0.722	0.176	0.369	0.749
11022	522.	0.398	2.448	0.688	0.140	0.314	0.638
11026	429.	0.483	2.846	0.755	0.172	0.322	0.841
11040	477.	0.442	2.608	0.667	0.172	0.281	0.799
11044	503.	0.429	2.676	0.714	0.143	0.280	0.716
11053	455.	0.503	2.648	0.787	0.193	0.365	0.789
MEAN	475.	0.450	2.679	0.708	0.172	0.325	0.761
S.D.	39.4	0.0370	0.2256	0.0483	0.0199	0.0400	0.0814
S.E.	12.4	0.0117	0.0713	0.0153	0.0063	0.0126	0.0258
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 2

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11001	486.	0.459	2.733	0.704	0.160	0.337	0.802
11009	476.	0.450	2.634	0.704	0.160	0.286	0.784
11010	481.	0.445	2.516	0.632	0.179	0.331	0.771
11014	460.	0.461	2.737	0.704	0.161	0.350	0.809
11029	519.	0.426	2.834	0.707	0.164	0.397	0.740
11033	464.	0.466	2.644	0.685	0.162	0.319	0.668
11037	483.	0.414	2.799	0.669	0.176	0.329	0.692
11046	462.	0.433	2.574	0.677	0.180	0.312	0.699
11052	412.	0.488	2.262	0.689	0.177	0.388	0.879
11057	424.	0.462	2.906	0.764	0.200	0.328	0.767
MEAN	467.	0.450	2.664	0.694	0.172	0.338	0.761
S.D.	30.8	0.0216	0.1852	0.0337	0.0131	0.0336	0.0634
S.E.	9.7	0.0068	0.0586	0.0107	0.0041	0.0106	0.0201
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 3

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11006	462.	0.465	2.684	0.671	0.139	0.351	0.727
11019	476.	0.439	2.676	0.700	0.162	0.328	0.752
11020	421.	0.487	2.960	0.817	0.164	0.342	0.805
11025	444.	0.486	2.556	0.705	0.155	0.349	0.750
11028	518.	0.415	2.763	0.697	0.154	0.332	0.666
11045	512.	0.438	2.512	0.633	0.176	0.313	0.664
11047	413.	0.494	2.446	0.642	0.160	0.339	0.676
11048	473.	0.450	2.592	0.704	0.184	0.294	0.706
11050	491.	0.426	2.509	0.727	0.210	0.365	0.648
11054	432.	0.461	2.824	0.669	0.208	0.363	0.764
MEAN	464.	0.456	2.652	0.696	0.171	0.337	0.716
S.D.	36.6	0.0273	0.1611	0.0517	0.0234	0.0221	0.0521
S.E.	11.6	0.0086	0.0509	0.0164	0.0074	0.0070	0.0165
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11003	503.	0.433	2.831	0.682	0.163	0.320	0.732
11005	502.	0.440	2.853	0.659	0.163	0.420	0.669
11007	498.	0.412	3.086	0.717	0.157	0.325	0.687
11008	476.	0.443	2.418	0.693	0.189	0.321	0.819
11017	449.	0.470	2.584	0.697	0.183	0.341	0.849
11018	468.	0.440	2.665	0.714	0.169	0.318	0.746
11027	468.	0.485	2.560	0.675	0.152	0.348	0.784
11031	493.	0.420	2.609	0.671	0.158	0.335	0.722
11038	474.	0.443	2.633	0.698	0.156	0.293	0.842
11043	516.	0.407	2.438	0.591	0.138	0.316	0.692
MEAN	485.	0.439	2.668	0.680	0.163	0.334	0.754
S.D.	20.8	0.0242	0.2040	0.0361	0.0148	0.0339	0.0658
S.E.	6.6	0.0077	0.0645	0.0114	0.0047	0.0107	0.0208
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11024	428.	0.470	2.953	0.759	0.157	0.334	0.752
11030	437.	0.467	2.707	0.696	0.183	0.359	0.792
11034	445.	0.449	2.769	0.730	0.175	0.335	0.847
11035	405.	0.511	3.015	0.674	0.133	0.360	0.857
11004	478.	0.446	2.697	0.722	0.174	0.303	0.759
11042	465.	0.469	2.413	0.774	0.170	0.331	0.778
11049	503.	0.408	2.915	0.702	0.155	0.310	0.668
11058	458.	0.437	2.657	0.747	0.122	0.360	0.653
11059	496.	0.425	2.839	0.744	0.220	0.327	0.746
11060	447.	0.477	2.638	0.723	0.161	0.320	0.380
MEAN	456.	0.456	2.760	0.727	0.165	0.334	0.723
S.D.	30.4	0.0293	0.1780	0.0306	0.0270	0.0205	0.1371
S.E.	9.6	0.0093	0.0563	0.0097	0.0085	0.0065	0.0434
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: UNTREATED

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11011	0.292	0.283	0.055	0.014	0.004	0.003
11012	0.261	0.190	0.074	0.010	0.003	0.003
11013	0.283	0.225	0.079	0.012	0.003	0.004
11015	0.341	0.253	0.055	0.013	0.003	0.005
11021	0.261	0.194	0.064	0.011	0.003	0.004
11022	0.241	0.239	0.047	0.013	0.003	0.003
11026	0.336	0.126	0.050	0.016	0.003	0.004
11040	0.283	0.264	0.064	0.012	0.003	0.004
11044	0.314	0.241	0.037	0.013	0.003	0.004
11053	0.338	0.288	0.067	0.015	0.003	0.005
MEAN	0.295	0.230	0.059	0.013	0.003	0.004
S.D.	0.0358	0.0492	0.0127	0.0018	0.0003	0.0007
S.E.	0.0113	0.0156	0.0040	0.0006	0.0001	0.0002
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: 0 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11001	0.321	0.191	0.085	0.011	0.003	0.003
11009	0.271	0.244	0.052	0.019	0.003	0.004
11010	0.293	0.212	0.052	0.013	0.003	0.005
11014	0.315	0.226	0.046	0.014	0.004	0.004
11029	0.283	0.154	0.061	0.013	0.004	0.004
11033	0.274	0.231	0.053	0.012	0.003	0.004
11037	0.277	0.219	0.078	0.011	0.003	0.002
11046	0.249	0.281	0.044	0.015	0.003	0.003
11052	0.352	0.248	0.039	0.015	0.003	0.003
11057	0.309	0.262	0.056	0.016	0.003	0.005
MEAN	0.294	0.227	0.056	0.014	0.003	0.004
S.D.	0.0300	0.0361	0.0146	0.0025	0.0004	0.0009
S.E.	0.0095	0.0114	0.0046	0.0008	0.0001	0.0003
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 8

MALE GROUP: 100 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11006	0.275	0.195	0.045	0.017	0.003	0.004
11019	0.263	0.170	0.056	0.011	0.003	0.003
11020	0.366	0.240	0.049	0.014	0.004	0.004
11025	0.275	0.205	0.039	0.014	0.003	0.004
11028	0.268	0.178	0.042	0.011	0.003	0.004
11045	0.283	0.156	0.028	0.013	0.003	0.004
11047	0.322	0.237	0.049	0.017	0.003	0.003
11048	0.298	0.233	0.069	0.014	0.003	0.004
11050	0.265	0.255	0.062	0.016	0.003	0.004
11054	0.329	0.167	0.034	0.015	0.004	0.005
MEAN	0.294	0.203	0.047	0.014	0.003	0.004
S.D.	0.0342	0.0355	0.0126	0.0019	0.0005	0.0006
S.E.	0.0108	0.0112	0.0040	0.0006	0.0002	0.0002
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: 300 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11003	0.270	0.167	0.060	0.012	0.003	0.006
11005	0.249	0.191	0.050	0.010	0.003	0.003
11007	0.249	0.185	0.071	0.012	0.003	0.003
11008	0.277	0.231	0.054	0.014	0.003	0.005
11017	0.316	0.258	0.049	0.015	0.003	0.004
11018	0.252	0.154	0.050	0.014	0.003	0.004
11027	0.271	0.216	0.037	0.013	0.003	0.004
11031	0.276	0.270	0.045	0.013	0.003	0.003
11038	0.289	0.200	0.037	0.012	0.003	0.004
11043	0.252	0.250	0.030	0.012	0.003	0.005
MEAN	0.270	0.212	0.048	0.013	0.003	0.004
S.D.	0.0214	0.0395	0.0120	0.0015	0.0002	0.0010
S.E.	0.0068	0.0125	0.0038	0.0005	0.0001	0.0003
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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MALE GROUP: 600 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11024	0.297	0.264	0.045	0.010	0.003	0.007
11030	0.341	0.247	0.049	0.017	0.004	0.004
11034	0.294	0.220	0.045	0.015	0.004	0.005
11035	0.328	0.146	0.036	0.014	0.002	0.004
11004	0.291	0.174	0.063	0.010	0.003	0.004
11042	0.297	0.224	0.054	0.014	0.003	0.007
11049	0.258	0.163	0.045	0.011	0.003	0.003
11058	0.247	0.269	0.054	0.013	0.003	0.004
11059	0.288	0.202	0.071	0.015	0.003	0.003
11060	0.145	0.228	0.041	0.014	0.003	0.004
MEAN	0.279	0.214	0.050	0.013	0.003	0.005
S.D.	0.0544	0.0421	0.0106	0.0023	0.0004	0.0014
S.E.	0.0172	0.0133	0.0033	0.0007	0.0001	0.0005
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11069	278.	0.705	2.705	0.723	0.187	0.392
11082	271.	0.723	3.022	0.749	0.240	0.432
11088	284.	0.609	2.556	0.623	0.151	0.310
11089	303.	0.653	2.525	0.647	0.244	0.416
11090	272.	0.757	2.643	0.676	0.191	0.404
11091	282.	0.681	2.858	0.734	0.220	0.365
11092	268.	0.664	2.701	0.683	0.190	0.384
11093	322.	0.578	2.398	0.556	0.186	0.320
11098	266.	0.699	2.684	0.669	0.218	0.376
11115	267.	0.764	2.697	0.745	0.165	0.397
MEAN	281.	0.683	2.679	0.681	0.199	0.380
S.D.	18.1	0.0599	0.1734	0.0612	0.0305	0.0391
S.E.	5.7	0.0189	0.0548	0.0193	0.0097	0.0124
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11114	269.	0.717	2.840	0.625	0.164	0.387
11070	275.	0.684	3.178	0.724	0.218	0.378
11074	274.	0.672	3.325	0.774	0.197	0.401
11079	242.	0.682	3.198	0.657	0.190	0.417
11084	255.	0.729	2.957	0.675	0.204	0.380
11087	309.	0.595	2.803	0.605	0.188	0.350
11099	284.	0.687	3.127	0.761	0.222	0.380
11110	253.	0.783	2.783	0.700	0.190	0.399
11111	252.	0.786	2.881	0.742	0.266	0.361
11116	237.	0.738	3.207	0.726	0.181	0.511
MEAN	265.	0.707	3.030	0.699	0.202	0.396
S.D.	21.7	0.0566	0.1984	0.0570	0.0282	0.0446
S.E.	6.8	0.0179	0.0627	0.0180	0.0089	0.0141
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11071	295.	0.675	2.831	0.671	0.214	0.349
11072	240.	0.817	2.629	0.646	0.208	0.383
11073	263.	0.738	3.019	0.681	0.183	0.430
11076	272.	0.669	2.768	0.713	0.191	0.397
11078	232.	0.823	2.733	0.716	0.177	0.379
11083	294.	0.673	2.694	0.656	0.180	0.357
11086	278.	0.709	2.874	0.802	0.241	0.374
11101	284.	0.701	3.366	0.845	0.211	0.415
11102	272.	0.713	2.952	0.695	0.206	0.441
11113	248.	0.770	2.718	0.661	0.190	0.391
MEAN	268.	0.729	2.858	0.709	0.200	0.392
S.D.	21.9	0.0572	0.2152	0.0656	0.0198	0.0299
S.E.	6.9	0.0181	0.0680	0.0207	0.0063	0.0094
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11066	260.	0.731	3.408	0.708	0.235	0.435
11075	276.	0.721	2.859	0.685	0.174	0.380
11077	266.	0.741	3.556	0.733	0.218	0.421
11080	227.	0.859	3.031	0.824	0.211	0.441
11085	280.	0.675	2.979	0.632	0.239	0.368
11094	259.	0.753	3.251	0.726	0.193	0.413
11103	285.	0.702	3.214	0.705	0.214	0.400
11105	279.	0.699	2.842	0.713	0.194	0.405
11106	264.	0.708	2.841	0.731	0.208	0.375
11119	254.	0.697	3.028	0.787	0.189	0.409
MEAN	265.	0.729	3.101	0.724	0.208	0.405
S.D.	16.9	0.0513	0.2484	0.0525	0.0205	0.0245
S.E.	5.3	0.0162	0.0785	0.0166	0.0065	0.0077
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN	LIVER	KIDNEYS	SPLEEN	HEART
11062	239.	0.778	2.820	0.632	0.180	0.427
11065	297.	0.599	3.074	0.707	0.202	0.448
11096	285.	0.628	2.947	0.639	0.179	0.375
11081	310.	0.690	3.106	0.742	0.219	0.419
11095	250.	0.668	3.144	0.600	0.164	0.380
11097	276.	0.775	3.217	0.681	0.203	0.395
11104	279.	0.713	3.068	0.763	0.237	0.384
11112	264.	0.746	3.208	0.784	0.295	0.458
11117	270.	0.693	2.826	0.715	0.156	0.404
11118	240.	0.796	3.167	0.763	0.242	0.438
MEAN	271.	0.709	3.058	0.703	0.208	0.413
S.D.	23.5	0.0658	0.1463	0.0630	0.0423	0.0296
S.E.	7.4	0.0208	0.0463	0.0199	0.0134	0.0094
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 16

FEMALE GROUP: UNTREATED

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11069	0.205	0.079	0.053	0.019	0.007	0.006
11082	0.188	0.095	0.033	0.030	0.009	0.007
11088	0.289	0.077	0.040	0.019	0.007	0.004
11089	0.294	0.091	0.055	0.025	0.008	0.006
11090	0.261	0.097	0.046	0.024	0.007	0.006
11091	0.291	0.095	0.029	0.027	0.010	0.005
11092	0.287	0.092	0.039	0.025	0.007	0.005
11093	0.158	0.087	0.037	0.015	0.007	0.006
11098	0.282	0.079	0.047	0.022	0.007	0.005
11115	0.165	0.080	0.048	0.027	0.009	0.005
MEAN	0.242	0.087	0.043	0.023	0.008	0.006
S.D.	0.0562	0.0077	0.0085	0.0045	0.0011	0.0008
S.E.	0.0178	0.0024	0.0027	0.0014	0.0004	0.0003
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 17

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11114	0.145	0.138	0.048	0.023	0.007	0.005
11070	0.269	0.079	0.035	0.033	0.008	0.006
11074	0.252	0.069	0.048	0.028	0.007	0.004
11079	0.277	0.084	0.028	0.028	0.012	0.005
11084	0.243	0.138	0.043	0.029	0.006	0.006
11087	0.314	0.099	0.029	0.019	0.008	0.005
11099	0.194	0.056	0.044	0.025	0.006	0.005
11110	0.221	0.088	0.051	0.025	0.009	0.006
11111	0.167	0.071	0.056	0.023	0.007	0.006
11116	0.329	0.083	0.041	0.033	0.010	0.005
MEAN	0.241	0.091	0.042	0.027	0.008	0.005
S.D.	0.0602	0.0276	0.0092	0.0043	0.0017	0.0007
S.E.	0.0190	0.0087	0.0029	0.0014	0.0005	0.0002
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

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FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11071	0.132	0.138	0.052	0.023	0.009	0.005
11072	0.208	0.145	0.045	0.025	0.007	0.007
11073	0.300	0.150	0.046	0.024	0.008	0.006
11076	0.305	0.083	0.052	0.022	0.007	0.004
11078	0.216	0.088	0.043	0.027	0.008	0.006
11083	0.361	0.123	0.041	0.022	0.006	0.006
11086	0.324	0.069	0.050	0.022	0.007	0.004
11101	0.201	0.109	0.055	0.029	0.008	0.006
11102	0.239	0.110	0.067	0.031	0.010	0.005
11113	0.177	0.057	0.049	0.029	0.008	0.005
MEAN	0.246	0.107	0.050	0.025	0.008	0.005
S.D.	0.0728	0.0324	0.0075	0.0033	0.0011	0.0010
S.E.	0.0230	0.0102	0.0024	0.0011	0.0004	0.0003
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 19

FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11066	0.350	0.104	0.047	0.027	0.007	0.006
11075	0.181	0.100	0.043	0.026	0.008	0.004
11077	0.331	0.069	0.057	0.026	0.008	0.006
11080	0.238	0.093	0.047	0.034	0.009	0.005
11085	0.154	0.169	0.051	0.030	0.006	0.005
11094	0.220	0.077	0.045	0.028	0.010	0.006
11103	0.172	0.096	0.052	0.024	0.007	0.006
11105	0.226	0.074	0.050	0.022	0.005	0.004
11106	0.125	0.067	0.051	0.025	0.006	0.006
11119	0.457	0.084	0.034	0.027	0.008	0.008
MEAN	0.245	0.093	0.048	0.027	0.008	0.006
S.D.	0.1035	0.0298	0.0061	0.0035	0.0015	0.0012
S.E.	0.0327	0.0094	0.0019	0.0011	0.0005	0.0004
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A16
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WTS. RELATIVE TO FINAL BODY WTS. [G/100 G]

PAGE 20

FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11062	0.167	0.108	0.048	0.029	0.007	0.007
11065	0.209	0.100	0.048	0.019	0.006	0.004
11096	0.281	0.093	0.041	0.029	0.006	0.005
11081	0.145	0.111	0.044	0.020	0.008	0.006
11095	0.196	0.112	0.046	0.024	0.008	0.005
11097	0.322	0.090	0.043	0.028	0.007	0.005
11104	0.154	0.114	0.045	0.023	0.008	0.005
11112	0.402	0.063	0.050	0.027	0.006	0.006
11117	0.193	0.082	0.043	0.022	0.008	0.005
11118	0.258	0.092	0.061	0.030	0.009	0.005
MEAN	0.233	0.096	0.047	0.025	0.007	0.005
S.D.	0.0824	0.0160	0.0057	0.0040	0.0010	0.0008
S.E.	0.0261	0.0051	0.0018	0.0013	0.0003	0.0003
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 1

MALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11011	431.	2.07	581.159	136.715	42.995	75.845	152.657
11012	521.	2.19	610.046	152.055	40.183	72.146	159.817
11013	480.	2.07	584.058	175.845	41.063	64.734	175.362
11015	419.	2.07	501.932	139.614	35.266	76.329	185.990
11021	510.	2.12	771.698	173.585	42.453	88.679	180.189
11022	522.	2.08	614.423	172.596	35.096	78.846	160.096
11026	429.	2.07	589.855	156.522	35.749	66.667	174.396
11040	477.	2.11	589.573	150.711	38.863	63.507	180.569
11044	503.	2.16	623.148	166.204	33.333	65.278	166.667
11053	455.	2.29	526.201	156.332	38.428	72.489	156.769
MEAN	475.	2.12	599.210	158.018	38.343	72.452	169.251
S.D.	39.4	0.072	71.6497	13.8494	3.3571	7.8554	11.5586
S.E.	12.4	0.023	22.6576	4.3796	1.0616	2.4841	3.6551
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 2

MALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11001	486.	2.23	595.516	153.363	34.978	73.543	174.888
11009	476.	2.14	585.981	156.542	35.514	63.551	174.299
11010	481.	2.14	565.421	142.056	40.187	74.299	173.364
11014	460.	2.12	593.868	152.830	34.906	75.943	175.472
11029	519.	2.21	665.611	166.063	38.462	93.213	173.756
11033	464.	2.16	568.056	147.222	34.722	68.519	143.519
11037	483.	2.00	676.000	161.500	42.500	79.500	167.000
11046	462.	2.00	594.500	156.500	41.500	72.000	161.500
11052	412.	2.01	463.682	141.294	36.318	79.602	180.100
11057	424.	1.96	628.571	165.306	43.367	70.918	165.816
MEAN	467.	2.10	593.721	154.268	38.245	75.109	168.971
S.D.	30.8	0.096	59.2417	8.7776	3.4020	7.9948	10.4837
S.E.	9.7	0.031	18.7339	2.7757	1.0758	2.5282	3.3152
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 3

MALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11006	462.	2.15	576.744	144.186	29.767	75.349	156.279
11019	476.	2.09	609.569	159.330	36.842	74.641	171.292
11020	421.	2.05	607.805	167.805	33.659	70.244	165.366
11025	444.	2.16	525.463	144.907	31.944	71.759	154.167
11028	518.	2.15	665.581	167.907	37.209	80.000	160.465
11045	512.	2.24	574.107	144.643	40.179	71.429	151.786
11047	413.	2.04	495.098	129.902	32.353	68.627	136.765
11048	473.	2.13	575.587	156.338	40.845	65.258	156.807
11050	491.	2.09	589.474	170.813	49.282	85.646	152.153
11054	432.	1.99	613.065	145.226	45.226	78.894	165.829
MEAN	464.	2.11	583.249	153.106	37.731	74.185	157.091
S.D.	36.6	0.072	47.4887	13.4031	6.2251	6.0415	9.6198
S.E.	11.6	0.023	15.0172	4.2384	1.9686	1.9105	3.0420
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 4

MALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11003	503.	2.18	653.211	157.339	37.615	73.853	168.807
11005	502.	2.21	647.964	149.774	37.104	95.475	152.036
11007	498.	2.05	749.756	174.146	38.049	79.024	166.829
11008	476.	2.11	545.498	156.398	42.654	72.512	184.834
11017	449.	2.11	549.763	148.341	38.863	72.512	180.569
11018	468.	2.06	605.340	162.136	38.350	72.330	169.417
11027	468.	2.27	527.753	139.207	31.278	71.806	161.674
11031	493.	2.07	621.256	159.903	37.681	79.710	171.981
11038	474.	2.10	594.286	157.619	35.238	66.190	190.000
11043	516.	2.10	599.048	145.238	33.810	77.619	170.000
MEAN	485.	2.13	609.387	155.010	37.064	76.103	171.615
S.D.	20.8	0.071	64.8976	9.8443	3.0768	7.8947	11.1227
S.E.	6.6	0.023	20.5224	3.1130	0.9730	2.4965	3.5173
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 5

MALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART	TESTES
11024	428.	2.01	628.856	161.692	33.333	71.144	160.199
11030	437.	2.04	579.902	149.020	39.216	76.961	169.608
11034	445.	2.00	616.000	162.500	39.000	74.500	188.500
11035	405.	2.07	589.855	131.884	26.087	70.531	167.633
11004	478.	2.13	605.164	161.972	38.967	68.075	170.423
11042	465.	2.18	514.679	165.138	36.239	70.642	166.055
11049	503.	2.05	715.122	172.195	38.049	76.098	163.902
11058	458.	2.00	608.500	171.000	28.000	82.500	149.500
11059	496.	2.11	667.299	174.882	51.659	76.777	175.355
11060	447.	2.13	553.521	151.643	33.803	67.136	79.812
MEAN	456.	2.07	607.890	160.192	36.435	73.436	159.099
S.D.	30.4	0.063	56.0695	12.9577	7.0704	4.7596	29.6112
S.E.	9.6	0.020	17.7307	4.0976	2.2358	1.5051	9.3639
N	10	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 6

MALE GROUP: UNTREATED

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11011	60.870	58.937	11.435	2.957	0.739	0.609
11012	62.100	45.205	17.516	2.466	0.667	0.804
11013	65.700	52.174	18.357	2.884	0.729	0.966
11015	69.082	51.208	11.043	2.725	0.565	1.005
11021	62.736	46.698	15.382	2.689	0.618	0.981
11022	60.577	60.096	11.745	3.327	0.702	0.688
11026	69.565	26.087	10.444	3.353	0.599	0.758
11040	63.981	59.716	14.479	2.711	0.626	0.924
11044	73.148	56.019	8.699	3.097	0.639	0.838
11053	67.249	57.205	13.284	3.004	0.655	0.926
MEAN	65.501	51.335	13.239	2.921	0.654	0.850
S.D.	4.1917	10.3195	3.1508	0.2859	0.0564	0.1337
S.E.	1.3255	3.2633	0.9964	0.0904	0.0178	0.0423
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 7

MALE GROUP: 0 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11001	69.955	41.704	18.435	2.502	0.596	0.673
11009	60.280	54.206	11.505	4.252	0.692	0.977
11010	65.888	47.664	11.631	2.846	0.650	1.215
11014	68.396	49.057	9.967	2.991	0.830	0.863
11029	66.516	36.199	14.362	3.023	0.864	0.923
11033	58.796	49.537	11.292	2.556	0.685	0.856
11037	67.000	53.000	18.915	2.775	0.770	0.535
11046	57.500	65.000	10.130	3.530	0.680	0.590
11052	72.139	50.746	8.010	3.100	0.607	0.716
11057	66.837	56.633	12.087	3.520	0.740	1.020
MEAN	65.331	50.374	12.633	3.109	0.711	0.837
S.D.	4.8698	7.8929	3.5783	0.5303	0.0893	0.2103
S.E.	1.5400	2.4960	1.1315	0.1677	0.0282	0.0665
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 8

MALE GROUP: 100 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11006	59.070	41.860	9.591	3.563	0.628	0.963
11019	59.809	38.756	12.813	2.608	0.689	0.569
11020	75.122	49.268	10.098	2.961	0.751	0.898
11025	56.481	42.130	7.958	2.903	0.523	0.759
11028	64.651	42.791	10.233	2.721	0.833	0.893
11045	64.732	35.714	6.375	2.969	0.638	0.875
11047	65.196	48.039	10.000	3.456	0.662	0.662
11048	66.197	51.643	15.258	3.178	0.718	0.812
11050	62.201	59.809	14.675	3.651	0.727	0.990
11054	71.357	36.181	7.472	3.307	0.945	0.990
MEAN	64.482	44.619	10.447	3.132	0.711	0.841
S.D.	5.6210	7.5675	2.9692	0.3566	0.1163	0.1414
S.E.	1.7775	2.3930	0.9389	0.1128	0.0368	0.0447
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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MALE GROUP: 300 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11003	62.385	38.532	13.844	2.757	0.638	1.376
11005	56.561	43.439	11.371	2.312	0.679	0.792
11007	60.488	44.878	17.263	2.849	0.712	0.810
11008	62.559	52.133	12.242	3.227	0.701	1.147
11017	67.299	54.976	10.389	3.137	0.706	0.806
11018	57.282	34.951	11.451	3.272	0.777	0.854
11027	55.947	44.493	7.546	2.608	0.630	0.819
11031	65.700	64.251	10.783	3.077	0.734	0.623
11038	65.238	45.238	8.267	2.638	0.671	0.810
11043	61.905	61.429	7.486	2.910	0.719	1.114
MEAN	61.536	48.432	11.064	2.879	0.697	0.915
S.D.	3.9629	9.5376	3.0061	0.3076	0.0442	0.2244
S.E.	1.2532	3.0160	0.9506	0.0973	0.0140	0.0710
N	10	10	10	10	10	10

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 10

MALE GROUP: 600 MG/KG/DAY

ANIMAL	EPIDID YMIDES	PROS TATE	THYMUS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11024	63.184	56.219	9.587	2.234	0.672	1.423
11030	73.039	52.941	10.446	3.721	0.814	0.765
11034	65.500	49.000	10.035	3.445	0.785	1.070
11035	64.251	28.502	7.029	2.768	0.483	0.710
11004	65.258	38.967	14.080	2.310	0.718	0.836
11042	63.303	47.706	11.509	2.972	0.729	1.394
11049	63.415	40.000	10.976	2.668	0.815	0.732
11058	56.500	61.500	12.270	2.895	0.605	1.015
11059	67.773	47.393	16.716	3.436	0.697	0.758
11060	30.516	47.887	8.502	2.892	0.549	0.897
MEAN	61.274	47.012	11.115	2.934	0.687	0.960
S.D.	11.5682	9.3788	2.7716	0.4847	0.1117	0.2647
S.E.	3.6582	2.9658	0.8765	0.1533	0.0353	0.0837
N	10	10	10	10	10	10

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SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: UNTREATED

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART
11069	278.	1.96	383.673	102.551	26.531	55.612
11082	271.	1.96	417.857	103.571	33.163	59.694
11088	284.	1.73	419.653	102.312	24.855	50.867
11089	303.	1.98	386.364	98.990	37.374	63.636
11090	272.	2.06	349.029	89.320	25.243	53.398
11091	282.	1.92	419.792	107.813	32.292	53.646
11092	268.	1.78	406.742	102.809	28.652	57.865
11093	322.	1.86	415.054	96.237	32.258	55.376
11098	266.	1.86	383.871	95.699	31.183	53.763
11115	267.	2.04	352.941	97.549	21.569	51.961
MEAN	281.	1.92	393.498	99.685	29.312	55.582
S.D.	18.1	0.107	26.8148	5.2312	4.7776	3.8616
S.E.	5.7	0.034	8.4796	1.6542	1.5108	1.2211
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART
11114	269.	1.93	395.855	87.047	22.798	53.886
11070	275.	1.88	464.894	105.851	31.915	55.319
11074	274.	1.84	495.109	115.217	29.348	59.783
11079	242.	1.65	469.091	96.364	27.879	61.212
11084	255.	1.86	405.376	92.473	27.957	52.151
11087	309.	1.84	470.652	101.630	31.522	58.696
11099	284.	1.95	455.385	110.769	32.308	55.385
11110	253.	1.98	355.556	89.394	24.242	51.010
11111	252.	1.98	366.667	94.444	33.838	45.960
11116	237.	1.75	434.286	98.286	24.571	69.143
MEAN	265.	1.87	431.287	99.148	28.638	56.254
S.D.	21.7	0.105	47.8526	9.1962	3.8162	6.3829
S.E.	6.8	0.033	15.1323	2.9081	1.2068	2.0184
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 13

FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART
11071	295.	1.99	419.598	99.497	31.658	51.759
11072	240.	1.96	321.939	79.082	25.510	46.939
11073	263.	1.94	409.278	92.268	24.742	58.247
11076	272.	1.82	413.736	106.593	28.571	59.341
11078	232.	1.91	331.937	86.911	21.466	46.073
11083	294.	1.98	400.000	97.475	26.768	53.030
11086	278.	1.97	405.584	113.198	34.010	52.792
11101	284.	1.99	480.402	120.603	30.151	59.296
11102	272.	1.94	413.918	97.423	28.866	61.856
11113	248.	1.91	352.880	85.864	24.607	50.785
MEAN	268.	1.94	394.927	97.891	27.635	54.012
S.D.	21.9	0.052	47.1844	12.8213	3.7477	5.4444
S.E.	6.9	0.016	14.9210	4.0544	1.1851	1.7217
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART
11066	260.	1.90	466.316	96.842	32.105	59.474
11075	276.	1.99	396.482	94.975	24.121	52.764
11077	266.	1.97	480.203	98.985	29.442	56.853
11080	227.	1.95	352.821	95.897	24.615	51.282
11085	280.	1.89	441.270	93.651	35.450	54.497
11094	259.	1.95	431.795	96.410	25.641	54.872
11103	285.	2.00	458.000	100.500	30.500	57.000
11105	279.	1.95	406.667	102.051	27.692	57.949
11106	264.	1.87	401.070	103.209	29.412	52.941
11119	254.	1.77	434.463	112.994	27.119	58.757
MEAN	265.	1.92	426.909	99.551	28.610	55.639
S.D.	16.9	0.069	38.2089	5.6557	3.5261	2.7790
S.E.	5.3	0.022	12.0827	1.7885	1.1150	0.8788
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

PROJECT NO.:WIL-402025
SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	FBW(G)	BRAIN WT (GRAMS)	LIVER	KIDNEYS	SPLEEN	HEART
11062	239.	1.86	362.366	81.183	23.118	54.839
11065	297.	1.78	512.921	117.978	33.708	74.719
11096	285.	1.79	469.274	101.676	28.492	59.777
11081	310.	2.14	450.000	107.477	31.776	60.748
11095	250.	1.67	470.659	89.820	24.551	56.886
11097	276.	2.14	414.953	87.850	26.168	50.935
11104	279.	1.99	430.151	107.035	33.166	53.769
11112	264.	1.97	429.949	105.076	39.594	61.421
11117	270.	1.87	408.021	103.209	22.460	58.289
11118	240.	1.91	397.906	95.812	30.366	54.974
MEAN	271.	1.91	434.620	99.712	29.340	58.636
S.D.	23.5	0.152	42.9108	11.0025	5.4325	6.5506
S.E.	7.4	0.048	13.5696	3.4793	1.7179	2.0715
N	10	10	10	10	10	10

FBW = FINAL BODY WEIGHT

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SPONSOR:AMERICAN PETROLEUM

TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: UNTREATED

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11069	29.082	11.194	7.582	2.679	0.974	0.791
11082	26.020	13.189	4.577	4.122	1.199	0.913
11088	47.399	12.665	6.601	3.173	1.162	0.653
11089	44.949	13.854	8.480	3.808	1.197	0.854
11090	34.466	12.801	6.131	3.233	0.985	0.806
11091	42.708	13.943	4.328	3.995	1.526	0.786
11092	43.258	13.798	5.826	3.764	1.062	0.820
11093	27.419	15.086	6.387	2.634	1.226	1.043
11098	40.323	11.280	6.667	3.210	1.005	0.704
11115	21.569	10.515	6.250	3.569	1.137	0.686
MEAN	35.719	12.832	6.283	3.419	1.147	0.806
S.D.	9.1731	1.4495	1.2355	0.5187	0.1628	0.1150
S.E.	2.9008	0.4584	0.3907	0.1640	0.0515	0.0364
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 17

FEMALE GROUP: 0 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11114	20.207	19.269	6.632	3.244	0.922	0.741
11070	39.362	11.612	5.112	4.787	1.213	0.851
11074	37.500	10.207	7.217	4.207	1.109	0.663
11079	40.606	12.267	4.109	4.036	1.703	0.758
11084	33.333	18.860	5.914	3.946	0.855	0.796
11087	52.717	16.658	4.940	3.250	1.283	0.891
11099	28.205	8.138	6.415	3.656	0.923	0.667
11110	28.283	11.298	6.480	3.237	1.101	0.722
11111	21.212	9.051	7.187	2.909	0.929	0.742
11116	44.571	11.251	5.566	4.451	1.314	0.623
MEAN	34.600	12.861	5.957	3.772	1.135	0.745
S.D.	10.3474	3.9762	1.0197	0.6125	0.2572	0.0840
S.E.	3.2721	1.2574	0.3225	0.1937	0.0813	0.0266
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: 100 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11071	19.598	20.477	7.724	3.462	1.286	0.784
11072	25.510	17.786	5.459	3.010	0.827	0.888
11073	40.722	20.371	6.175	3.191	1.072	0.778
11076	45.604	12.374	7.736	3.319	0.984	0.588
11078	26.178	10.691	5.178	3.220	0.927	0.743
11083	53.535	18.253	6.030	3.242	0.889	0.929
11086	45.685	9.797	7.046	3.066	0.985	0.584
11101	28.643	15.492	7.804	4.131	1.206	0.854
11102	33.505	15.376	9.356	4.345	1.335	0.742
11113	23.037	7.366	6.393	3.723	1.099	0.702
MEAN	34.202	14.798	6.890	3.471	1.061	0.759
S.D.	11.4863	4.5701	1.2835	0.4542	0.1709	0.1151
S.E.	3.6323	1.4452	0.4059	0.1436	0.0541	0.0364
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

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FEMALE GROUP: 300 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11066	47.895	14.232	6.458	3.663	0.974	0.842
11075	25.126	13.869	5.920	3.538	1.121	0.618
11077	44.670	9.269	7.711	3.523	1.020	0.807
11080	27.692	10.805	5.436	3.954	1.082	0.615
11085	22.751	25.085	7.503	4.481	0.921	0.804
11094	29.231	10.179	5.995	3.733	1.349	0.805
11103	24.500	13.680	7.410	3.395	1.035	0.840
11105	32.308	10.544	7.149	3.082	0.738	0.513
11106	17.647	9.513	7.144	3.508	0.898	0.807
11119	65.537	12.045	4.932	3.921	1.192	1.192
MEAN	33.736	12.922	6.566	3.680	1.033	0.784
S.D.	14.6406	4.6489	0.9589	0.3789	0.1687	0.1839
S.E.	4.6298	1.4701	0.3032	0.1198	0.0534	0.0582
N	10	10	10	10	10	10

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TABLE A17
A 90-DAY DERMAL STUDY UTILIZING SULFUR DIESEL FUEL IN RATS
INDIVIDUAL ORGAN WEIGHTS RELATIVE TO BRAIN WEIGHTS [G/100 G]

PAGE 20

FEMALE GROUP: 600 MG/KG/DAY

ANIMAL	UTERUS	THYMUS	OVARIES/ OVIDUCTS	ADRENAL GLANDS	PITU ITARY	THYROIDES /PARATHY
11062	21.505	13.839	6.215	3.742	0.898	0.952
11065	34.831	16.753	7.944	3.242	0.972	0.713
11096	44.693	14.827	6.486	4.665	1.034	0.754
11081	21.028	16.009	6.304	2.967	1.103	0.822
11095	29.341	16.802	6.868	3.575	1.192	0.790
11097	41.589	11.607	5.598	3.654	0.925	0.673
11104	21.608	15.990	6.317	3.176	1.101	0.764
11112	53.807	8.437	6.761	3.660	0.858	0.782
11117	27.807	11.861	6.193	3.171	1.096	0.733
11118	32.461	11.518	7.639	3.796	1.162	0.644
MEAN	32.867	13.764	6.632	3.565	1.034	0.763
S.D.	11.0175	2.8086	0.7049	0.4807	0.1153	0.0857
S.E.	3.4840	0.8882	0.2229	0.1520	0.0365	0.0271
N	10	10	10	10	10	10

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