

ABSTRACT

The developmental toxicity of baseline gasoline was evaluated in 25 confirmed-mated female Crl:CD[®](SD)IGSBR rats/exposure group at target concentrations of 0, 2000, 10,000, and 20,000 mg/m³ in air. The animals were exposed daily for six hours from Gestation Day 5 through Gestation Day 20. There was no evidence of maternal toxicity. There were no statistically or biologically significant differences for uterine implantation data, and external, visceral, and skeletal observations in the fetuses. Statistically significant reduced mean fetal body weights were noted for all treatment groups. However, the fetal body weights of the treated groups were within the historical control range of the laboratory while the mean fetal body weights of both sexes of the control group were greater than the historical range. Additionally, as the mean fetal body weights were similar for all treated groups (*i.e.*, did not differ with increasing dose), the decreased body weights were considered unrelated to exposure. Therefore, the decreased fetal body weights, while statistically significant, were not due to the test substance. Thus, exposure to baseline gasoline at levels up to a target concentration of 20,000 mg/m³ did not cause maternal or developmental toxicity. Both the maternal and developmental No Adverse Effect Levels (NOAELs) were 20,000 mg/m³ target concentration.

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FINAL REPORT

STUDY NUMBER: 169534

TEST SUBSTANCE: BASELINE GASOLINE VAPOR CONDENSATE
(MRD-00-695)

WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE (MRD-00-695)

PERFORMED FOR:

AMERICAN PETROLEUM INSTITUTE
1220 L Street Northwest
Washington, D.C. 20005-4070

PERFORMED AT:

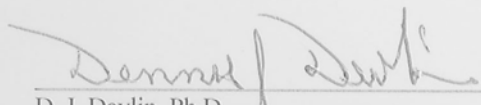
EXXONMOBIL BIOMEDICAL SCIENCES, INC.
Laboratory Operations, Mammalian Toxicology Laboratory
1545 Route 22 East, P.O. Box 971
Annandale, New Jersey 08801-0971

STUDY COMPLETION DATE: July 16, 2008

08TP 13

APPROVAL SIGNATURES

APPROVAL SIGNATURES


D. J. Devlin, Ph.D.
Director, Toxicology and Environmental Sciences

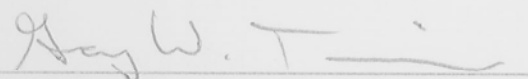
July 16, 2008
Date

I hereby accept responsibility for the validity of these data and declare that to the best of my knowledge, the study contained herein was performed under my supervision in compliance with the EPA, United States Environmental Protection Agency, Good Laboratory Practices (GLP) Standards for Inhalation Exposure Health Effects Testing, 40CFR, Part 79.60, 1994 with the following exception.

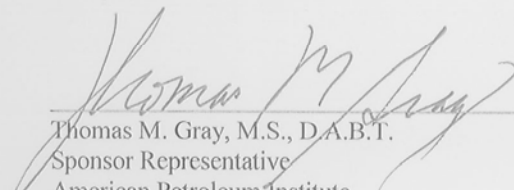
The storage of the sorbent tubes collected for the detailed capillary/GC analysis was not documented. The tubes were stored in the necropsy freezer after sample collection until they were transferred to the Analytical Chemistry Group for analysis.

Standard Operating Procedures were not written for the instruments used to monitor oxygen, sound levels, and light intensity prior to their use on Study 169534.

It was the Sponsor's responsibility to maintain the method of synthesis, fabrication, or derivation of the test fuel. This was not completed when the study initiated but is currently maintained by the Sponsor.


G. W. Trimmer, B.A.
Study Director
ExxonMobil Biomedical Sciences, Inc.
1545 Route 22 East, P.O. Box 971
Annandale, NJ 08801-0971

16/504/08
Date


Thomas M. Gray, M.S., D.A.B.T.
Sponsor Representative
American Petroleum Institute
1220 L Street Northwest
Washington, D.C. 20005-4070

5/1/2008
Date

PERSONNEL

Study Director:	G. W. Trimmer, B.A.
Sponsor:	American Petroleum Institute 1220 L Street Northwest Washington, D.C. 20005-4070
Sponsor Representative:	T. M. Gray, M.S., D.A.B.T.
Director, Laboratory Operations (Study Initiation through October 31, 2004)	J. J. Freeman, Ph.D., D.A.B.T.
Laboratory Coordinator (effective November 1, 2004):	G. W. Trimmer, B. A.
Toxicology and Animal Care Supervisor:	R. C. Forgash, B.S.
Compound Preparation Supervisor:	E. J. Febbo, M.S.
Analytical Chemistry Supervisor:	D. J. Letinski, M.S.
Quality Assurance/Archives Section Head (Study Initiation through February 28, 2005)	W. J. Bover, Ph.D.
Quality Assurance/Archives Supervisor (effective March 1, 2005) :	R. Pristas, M.S.
Veterinarian:	R. L. Harris, D.V.M.
Reproductive Toxicology Consultant:	S. B. Harris, Ph.D.
Statistician:	M. J. Nicolich, Ph.D
Statistician Consultant:	G. Bukhbinder, Ph.D.

QUALITY ASSURANCE STATEMENT

STUDY NUMBER: 169534

TEST SUBSTANCE: MRD-00-695

STUDY SPONSOR: American Petroleum Institute

Listed below are the inspections performed by the Quality Assurance Unit of ExxonMobil Biomedical Sciences, Inc., the date(s) of inspection, and the date(s) findings were reported to the Study Director and Management.

<u>Study Phase Inspected</u>	<u>Date(s) of Inspection</u>	<u>Reported to Study Director</u>	<u>Reported to Management</u>
Protocol	22 Nov 00	27 Nov 00	29 Nov 00
Animal Receipt	07 Mar 01	08 Mar 01	16,20 Jun 06
Chamber Trials	12,18,19 Apr 01	19 Apr 01	14,15 Mar 02
Mating Confirmation/ Sorting	21 May 01	21 May 01	21 May 01, 01 Jun 01
Exposure/Dosing	30 May 01	31 May 01	31 May 01, 06,11 Jun 01
Clinical Observations	30 May 01	31 May 01	31May 01, 06,11 Jun 01
Necropsy (C-sections, Fetal Gross and Visceral Exams)	05,06 Jun 01	06 Jun 01	06 Jun 01, 14,15 Mar 02
Skeletal Processing	26 Jul 01	27 Jul 01	27 Jul 01, 14,15 Mar 02

QUALITY ASSURANCE STATEMENT – CONT'D

STUDY NUMBER: 169534

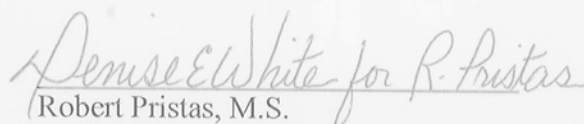
TEST SUBSTANCE: MRD-00-695

STUDY SPONSOR: American Petroleum Institute

Listed below are the inspections performed by the Quality Assurance Unit of ExxonMobil Biomedical Sciences, Inc., the date(s) of inspection, and the date(s) findings were reported to the Study Director and Management.

<u>Study Phase Inspected</u>	<u>Date(s) of Inspection</u>	<u>Reported to Study Director</u>	<u>Reported to Management</u>
First Review of Draft Report with the Exception of Appendices G,I,J,K	16 Jan 02 - 08 Feb 02	08 Feb 02	10,20 Apr 06
Second Review of Draft Report / First Review of Appendices G,I,J,K	22-24,29-31 Mar 06	31 Mar 06	21 Jun 06
Third Review of Draft Report / Second Review of Appendices J,K	12,14,16 Jun 06	16 Jun 06	27,29 Jun 06
Fourth Review of Draft Report	22 Apr 08	22 Apr 08	24 Apr 08

The final report accurately reflects the methods, procedures and observations documented in the raw data.


Robert Pristas, M.S.
Quality Assurance Unit Coordinator

16 Jul 08
Date

Section 1

SUMMARY

This study was conducted to evaluate the potential developmental toxicity of the test substance, Baseline Gasoline Vapor Condensate (BGVC). BGVC was administered via whole-body inhalation exposure to pregnant rats during the period of major organogenesis and fetal growth. BGVC was administered by whole-body inhalation exposure to 25 confirmed-mated Crl:CD[®](SD)IGSBR female rats at target doses of 0 (air control) 2000, 10,000, and 20,000 mg/m³ for six hours (plus the theoretical equilibration time) daily from Gestation Day (GD) 5 through GD 20. The Sponsor selected the exposure levels based upon safety considerations and previously conducted mammalian toxicity studies..

Clinical observations were made daily during gestation. Body weight and food consumption measurements were made on GD 0, 5, 8, 11, 14, 17, 20, and 21. On GD 21, animals were sacrificed by CO₂ asphyxiation followed by exsanguination. The reproductive organs and the abdominal and thoracic cavities were examined grossly. Uterine weights with ovaries attached were recorded. Uterine contents were examined, and the numbers of live, dead and resorbed fetuses were recorded. All fetuses were weighed, sexed externally, and examined externally for gross malformations. Apparent non-gravid uteri were placed in 10% ammonium sulfide solution for confirmation of non-pregnancy status.

The viscera of approximately one-half of the fetuses of each litter were examined by fresh dissection. After these fetuses were examined, they were decapitated. The heads were preserved in Bouin's solution for at least two weeks, rinsed, and subsequently stored in 70% ethanol. The fetal heads were sectioned and examined with a dissecting microscope for the presence of abnormalities. The remaining fetuses judged to be alive at the C-section were eviscerated, processed for skeletal staining, stained for bone and cartilage, and examined for the presence of skeletal malformations and variations.

There was no evidence of maternal toxicity in this study at any concentration tested. All dams survived to scheduled terminal sacrifice on GD 21 and were free of clinical or postmortem effects attributable to treatment with BGVC.

There were no statistically significant differences between the control and the BGVC treated groups for uterine implantation data, and external, visceral, and skeletal observations. The most frequently noted observation during fetal examinations was rudimentary lumbar ribs. The incidence of this observation was similar across all groups and was within the historical control range of this laboratory.

SUMMARY (CONT'D)

A statistically significant decrease in mean fetal body weight was evident in all exposed groups. This could be interpreted as an indication of developmental toxicity. However, these decreases are probably neither treatment related nor biologically significant for the following reasons:

- The mean fetal weights of the treatment groups were within the historical control range of the laboratory. The mean fetal body weights determined in the control group were greater than this laboratory's historical control mean fetal body weight range and likewise the MARTA historical control data base (mean fetal body weights) for Charles River (Raleigh facility) rat fetuses obtained from dams on GD 21.
- A comparison of mean litter weights (mean of the sum of all fetus weights/group) revealed that the litter weights of all groups were comparable and the control litter weights were the most variable.
- The mean litter size in the control group was smaller than any treated group. Consequently, it must be remembered, however, that among animals which deliver multiple offspring, individual fetal body weights tend to be heavier in smaller litters, as was seen in this study (Romero, 1992).
- There was no dose response in the mean fetal weights of the treated groups. The fetal weights of the treated groups were not statistically significantly different from each other. If the lower fetal weights in the treated groups were related to treatment, one would expect that the mean fetal weight of the group exposed to a target concentration of 20,000 mg/m³ would be at least substantially lower than the mean fetal weight of the group exposed to a target concentration of 2000 mg/m³.

No other observations were evident in the treated groups that were statistically or biologically significantly different from the observations in the control group.

In conclusion, administration of the test substance to rats by whole-body inhalation exposure during the period of organogenesis and fetal growth did not result in maternal or developmental toxicity.

Therefore, the No Observable Adverse Effect Levels (NOAELs) for maternal and developmental toxicity in this study was established at 20,000 mg/m³ target concentration.

Section 2

INTRODUCTION

This study was conducted to evaluate the developmental toxicity of Baseline Gasoline Vapor Condensate (MRD-00-695) administered via whole-body inhalation exposure to pregnant rats during the period of major organogenesis and fetal growth.

This study was conducted for the American Petroleum Institute, 1220 L Street Northwest, Washington, D.C. 20005-4070 (subsequently referred to as the Sponsor).

The study was conducted by ExxonMobil Biomedical Sciences, Inc. (EMBSI) Laboratory Operations, Mammalian Toxicology Laboratory, 1545 Route 22 East, P.O. Box 971, Annandale, New Jersey 08801-0971. The EMBSI Mammalian Toxicology Laboratory is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC International).

STUDY INITIATION (PROTOCOL SIGNATURE DATE)

February 28, 2001

INLIFE TEST PERIOD

May 19, 2001 to June 15, 2001

EXPERIMENTAL TERMINATION DATE

November 29, 2001

JUSTIFICATION FOR SELECTION OF TEST SYSTEM

The rat is one of the species required by the EPA for the developmental toxicity testing requirement of Section 211b of the Clean Air Act.

JUSTIFICATION OF DOSING ROUTE

Exposure by inhalation is a likely route of human exposure.

JUSTIFICATION OF DOSE SELECTION

The target high dose (20,000 mg/m³) was selected based on safety concerns as one-half the Lower Explosive Limit. The target low dose (2,000 mg/m³) was expected to produce a No Adverse Effect Level based on the results of previous subchronic and developmental studies conducted on this material, related materials, or some combination thereof. The target mid dose (10,000 mg/m³) was selected as the approximate mid point between the target low and high doses to produce a dose response relationship, if one existed in this treatment range.

COMPLIANCE

This study was conducted to meet/exceed compliance with the following standards and requirements:

EPA, United States Environmental Protection Agency, Good Laboratory Practices (GLP) Standards for Inhalation Exposure Health Effects Testing. 79.60 CFR Vol. 59, No. 122, 27 June 1994.

EPA, United States Environmental Protection Agency, Vehicle Emissions Inhalation Exposure Guideline. 79.61 CFR Vol. 59, No. 122, 27-June 1994.

This study was conducted in accordance with the following guidelines and standards:

EPA, United States Environmental Protection Agency, Health Effects Test Guidelines OPPTS 870.3600 Inhalation Developmental Toxicity Study, Public Draft, June 1996.

EPA, United States Environmental Protection Agency, Health Effects Test Guidelines, OPPTS 870.3700, August 1998.

OECD, Organization for Economic Cooperation and Development, Guidelines for the Testing Chemicals, Prenatal Developmental Toxicity Study, Guideline 414, January 2001.

Animal Welfare Act of 1966 (P.L. 89-544), as amended in 1970, 1976, and 1985. Code of Federal Regulations, Title 9 [Animals and Animal Products], Subchapter A - Animal Welfare Parts 1, 2, and 3.

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

Section 3

MATERIALS AND METHODS

TEST SUBSTANCE

Substance Identification

EMBSI Identification:	MRD-00-695	
Sponsor Identification:	Baseline Gasoline Vapor Condensate	
Supplier:	Chevron Research and Technology Company	
Lot #:	API 99-01	
Description:	Colorless liquid	
Storage Condition:	Outdoor ambient conditions	
Date Received:	Tank numbers:	Expiration Date:
December 11, 2000	3-10	December 2005
April 9, 2001	11-18	April 2006
June 8, 2001	19-25	June 2006

Characterization of the Test Substance

The stability, identity, strength, purity, and composition or other characteristics that appropriately identified the test substance was performed by the testing laboratory (EMBSI). Documentation is maintained at ExxonMobil Biomedical Sciences, Inc., Annandale, New Jersey. Characterization will be reported as part of EMBSI Study 167490. Additionally, Appendix J shows the stability of the test substance over the course of the exposure interval.

It was the Sponsor's responsibility to maintain the method of synthesis, fabrication, or derivation of the test fuel. This was not completed when the study initiated but is currently maintained by the Sponsor.

TEST SUBSTANCE (CONT'D)

Analysis of Mixtures

Nominal Concentration. A nominal exposure concentration was calculated on a daily basis. The net weight of test substance used was determined and was divided by the total volume of air passing through the chamber to give the nominal concentration.

Analytical Concentration. The concentration of the test atmosphere in each chamber and the chamber room was determined approximately hourly during each exposure by on-line gas chromatography. The chamber concentrations were measured in the breathing zone of the rats. A backup analytical device (calibrated infrared vapor monitor) was also available. The hourly chromatographic analyses showed four of the major components of the test atmosphere and was used to assess the stability of the test substance over the duration of the study.

Additionally, a sorbent tube sample of the test atmosphere was collected by drawing a known volume of the test atmosphere from each chamber through a calibrated critical orifice once during each week of the study. These samples were stored in a freezer and analyzed by the detailed capillary/GC method used for the initial characterization analysis of the liquid test substance. This analysis was done to determine component proportions of the test material atmosphere compared to the liquid test material.

Chamber Homogeneity. Distribution samples were drawn from twelve different points within the chamber at each exposure level during the validation of the exposure system for this study.

Particle Size Analysis. A particle size determination of the aerosol portion of the test atmosphere was conducted three times during the chamber trials from the 20,000 mg/m³ concentration. The samples were taken using a multistage cascade impactor. Preweighed glass fiber filters were used to collect aerosol on each stage, which are associated with specific cutoff diameters for aerodynamic particle size in microns. Since minimal aerosol was present, no further calculations were performed.

Sample Retention

No retention samples were taken due to the practical and safety considerations of storing a mixed gas/liquid phase substance under pressure.

Carrier

Air

TEST SYSTEM

Test Animal

Species: Rat
Strain/stock: Crl:CD[®](SD)IGSBR
Supplier: Charles River Laboratories, Inc.
Raleigh, North Carolina

Animal Receipt Information (Females)

Receipt Date: May 1, 2001
Purchase Order Number: 1AMO4250

Quarantine and Acclimation Period

13 days; animals were checked for viability at least once daily.

Number and Sex

150 sexually mature virgin females

100 females were allocated to study groups after confirmation of mating; additional animals received for mating purposes only.

50 sexually mature males (received for mating purposes only)

Age at Initiation of Gestation (Designated GD 0)

Females: Approximately 13-14 weeks

Weight at Initiation of Gestation (Designated GD 0)

Females: 224 to 311 grams

TEST SYSTEM (CONT'D)

Animal Identification

Individual ear tags and corresponding cage identification.

Selection

More animals than required for the conduct of the study were purchased and acclimated. Animals determined to be unsuitable for inclusion on this study because of poor health, outlying body weights, or other abnormalities were excluded from selection by the Study Director, and/or technical staff.

Feed

Certified Rodent Diet Meal 5002, ad libitum

Manufacturer: PMI Feeds Inc.
Richmond, Indiana

Analysis: Performed by PMI Feeds Inc. Copies of the feed analyses are maintained in the EMBSI Toxicology Laboratory and are presented in Appendix M. The feed analyses were not conducted by a GLP-compliant laboratory.

Contaminants: There were no known contaminants in the feed believed to have been present at levels that may have interfered with this study.

The availability of feed was checked daily for all animals. Animals were without food while in the exposure chambers.

Water

Automatic watering system, ad libitum

Supplier: ExxonMobil Research and Engineering Potable Water System.

Analysis: Periodic analysis is the responsibility of the testing laboratory. A copy of the results is maintained at the testing laboratory and are presented in Appendix M. The analysis was not performed in a GLP-compliant laboratory.

Contaminants: There were no known contaminants in the water believed to have been present at levels that may have interfered with this study.

The availability of water was checked daily for all animals. Animals were without water while in the exposure chambers.

TEST SYSTEM (CONT'D)

Housing

Room Number: PE103
Chamber rooms: PE102, PE110
Housing: Single housed during the study period, except during mating.
Caging: Suspended stainless steel and wire mesh with absorbent paper below cages.

Environmental Conditions

Animal Room

Temperature: 64 to 72 degrees Fahrenheit
Humidity: 30 to 70 percent relative humidity
Lighting: Approximately 12 hours light (0600 to 1800 hours) and 12 hours dark (1800 to 0600 hours) by automatic timer.

Temperature was monitored at least twice daily and humidity was monitored at least once daily. Additionally, a non-validated computerized system monitored the temperature, humidity, and lighting continuously for alarm purposes.

Chambers

Temperature: 61 to 75 degrees Fahrenheit
Humidity: 56 to 84 percent relative humidity

Temperature and humidity were monitored continuously and recorded approximately every 30 minutes during the exposure.

Light intensity was measured three times during the study (the first day of exposures, during the second week of exposures and the last day of exposures) in both the animal room and the chamber rooms. Light intensity was measured in the animal room in a cage approximately three feet above the floor level. In the chamber rooms the light intensity was measured three feet above floor level in the approximate center of each generation room.

Additionally, the oxygen level and the noise level were measured in each exposure chamber on the first day of exposures, during the second week of exposures and on the last day of exposures.

EXPERIMENTAL DESIGN

Mating

On the initial scheduled mating day, females were placed in males' cages in a 1:1 (male:female) ratio. Males and females were paired based on sequential Physical Identification Numbers. A sufficient number of animals were co-housed in an attempt to produce an acceptable number of mated animals to accommodate lab scheduling. Mating was confirmed on the following morning by observation of a copulatory plug (vaginal) and/or by the presence of sperm in a vaginal rinse. The day on which mating was confirmed was considered Day 0 of gestation (GD 0). After confirmation of mating, each mated female was returned to its own cage. New females then were placed in the males' cages until the required number of mated females was obtained by continuous cohabitation in consideration of lab scheduling. Mated females subsequently were assigned to dose groups by a computer generated body weight sorting program using the GD 0 body weights to ensure mean body weight was similar between all groups on GD 0.

Experimental Groups

Group Number	Number of Females per Group	Target Dose (mg/m ³)
1. (Carrier Control)	25	0
2. Low	25	2000
3. Intermediate	25	10,000
4. High	25	20,000

Administration of Test Substance and Exposure Schedule

The experimental and control animals were placed (whole body) into 1.0 M³ inhalation chambers that were operated under dynamic conditions. The exposure period was at least 6 hours per day. The test substance atmosphere generation system was started after the last animal was placed in the exposure chambers and the generation system was stopped six hours later. The animals remained in the chambers for at least an additional 23 minutes (theoretical equilibration time) while the test atmosphere cleared. The animals were exposed from GD 5 through GD 20.

The Chamber

The chambers used for exposure were stainless steel and glass or plastic and had a total volume of approximately 1.0 M³. They operated at an airflow rate of 200 liters per minute ensuring 12 air changes per hour and a theoretical equilibration time (T₉₉) of 23 minutes. The flow of air through each chamber was monitored continuously using a calibrated flow measuring device and recorded approximately every 30 minutes. All chambers were maintained at a slight negative pressure. The pressure was monitored continuously and recorded approximately every 30 minutes.

EXPERIMENTAL DESIGN (CONT'D)

The Test Atmosphere

The control group was exposed to clean filtered air under conditions identical to those used for groups exposed to the test substance. The test substance was administered fully vaporized in the breathing air of the animals. The test atmosphere composition and concentration remained constant at each exposure level over the daily six-hour period. The daily mean exposure concentrations were within $\pm 10\%$ of the target exposure levels.

Experimental Evaluation

Animals were examined for viability at least twice daily during the study. Body weights were taken prior to selection, and on GD 0, 5, 8, 11, 14, 17, 20, and 21. Food consumption was measured for mated females on GD 5, 8, 11, 14, 17, 20, and 21. A clinical examination was given to each female prior to selection, and daily during gestation.

Euthanasia and Cesarean Section

Euthanasia was by CO₂ asphyxiation followed by exsanguination. A gross necropsy was performed on all mated females.

The fetuses were placed in a refrigerator to slow down and eventually terminate vital signs after the external examination and weighing.

Mated females were euthanized on GD 21. Body weights were recorded on the day of necropsy. Uterine weights with ovaries attached were recorded at the time of necropsy. Uterine contents were examined and the numbers and locations of implantation sites, early and late resorptions, live and dead (alive or dead *in utero*) fetuses were counted. Corpora lutea also were counted. The uteri of all apparently non-pregnant females were stained with 10% ammonium sulfide to confirm pregnancy status.

Evaluations of dams during cesarean section were conducted without knowledge of treatment group in order to minimize bias.

EXPERIMENTAL DESIGN (CONT'D)

Examination of Fetuses

Each live fetus (alive *in utero*) was weighed and examined externally for gross malformations. Fetal sex was determined by external examination and confirmed internally only on those fetuses receiving visceral examinations.

The viscera of approximately one-half of the live fetuses (alive *in utero*) of each litter were examined by fresh dissection (Staples, 1974; Stuckhardt and Poppe, 1984). After these fetuses were examined, they were decapitated. The heads were preserved in Bouin's solution for at least two weeks, then rinsed and subsequently stored in 70% ethanol. Free-hand razor blade sections of the Bouin's-fixed fetal heads were examined for the presence of abnormalities. The remaining live fetuses (alive *in utero*) were eviscerated, processed by double staining with Alizarin red and Alcian blue, and examined for the presence of bone and cartilage malformations and ossification variations.

Fetal evaluations were conducted without knowledge of treatment group in order to minimize bias.

Tissue Preservation

Fetal heads were fixed in Bouin's solution and then preserved in 70% ethanol. The fetal skeletons were preserved in glycerine with thymol after they were processed and stained.

Records

A copy of the protocol, final report, raw data, computer generated listings of raw data, supporting documentation, and tissue specimens are maintained in the EMBSI Toxicology Laboratory Archives.

Statistical Analysis

Statistical evaluation of equality of means was done by an appropriate one way analysis of variance and a test for ordered response in the dose groups. First, Bartlett's Test was performed to determine if the dose groups had equal variance (Snedecor and Cochran, 1989). If the variances were equivalent, the hypothesis that there was no difference in response between the groups was tested using a standard one-way analysis of variance (Snedecor and Cochran, 1989). If the variances were equal, the testing was done using parametric methods, otherwise nonparametric techniques were used.

Continuous data will be tested for statistical significance as follows: Where applicable, percentages were calculated and transformed by Cochran's transformation, followed by the arc sine transformation (Snedecor and Cochran, 1989). The raw percentages and the transformed percentages both were tested for statistical significance.

EXPERIMENTAL DESIGN (CONT'D)

Statistical Analysis (Cont'd)

For the parametric procedures, a standard one way ANOVA using the F distribution to assess significance was used (Snedecor and Cochran, 1989). If significant differences among the means were indicated, Dunnett's Test was used to determine which treatment groups differed significantly from control (Dunnett, 1964). In addition to the ANOVA, a standard regression analysis for linear response in the dose groups was performed. The regression also tested for linear lack of fit in the model.

For the nonparametric procedures, the test of equality of means was performed using the Kruskal-Wallis Test (Hollander and Wolfe, 1973). If significant differences among the means were indicated, Dunn's Summed Rank Test was used to determine which treatment groups differed significantly from the control (Hollander and Wolfe, 1973). In addition to the Kruskal-Wallis Test, Jonckheere's Test for monotonic trend in the dose response was performed.

Bartlett's Test for equal variance was conducted at the 1% level of significance. All other tests were conducted at the 5% and 1% level of significance.

The following data was not included in the statistical analyses:

- Gestation body weight and body weight change data for females that were not pregnant
- Gestation food consumption for females that were not pregnant

Means and standard deviations were calculated for animal, exposure and chamber environmental data. The coefficient of variation also was calculated when considered relevant for the exposure data.

Fetal body weight was analyzed by a mixed model analysis of variance that provided an accurate statistical model of the biology. The analysis used the litter as the basis for analysis and effectively used the litter size as a covariate. The model considered dose group, litter size, and fetal sex as explanatory variables. If the overall effect of dose, or the dose by sex effect, was statistically significant the dose groups means were tested pairwise vs. the control group using least squares means. The least squares means allowed comparisons that accounted for differences in litter size and sex. The mathematical model was based on a paper by Chen, et al (1996). The analysis was run using SAS with code suggested in Little, et al (1997).

EXPERIMENTAL DESIGN (CONT'D)

Statistical Analysis (Cont'd)

The analysis of anomalies (malformations or variations) was based on a Generalized Estimating Equation (GEE) application of the linearized model, Ryan (1992). The model used the litter as the basis for analysis and considered correlation among littermates by incorporating an estimated constant correlation and the litter size as a covariate. If the overall effect of dose, or the dose by sex effect, was statistically significant the dose groups were tested pairwise vs. the control group using least squares means. The least squares means allowed comparisons that accounted for differences in litter size. Three categories of anomalies were tested, and within each category specific anomalies also were tested. In addition to the category specific anomalies a series of combined analyses were performed within each category as applicable:

- Combined Malformations and Variations for All Fetuses
- Combined Malformations and Variations for Alive Fetuses
- Malformations for All Fetuses
- Malformations for Alive Fetuses
- Variations for All Fetuses
- Variations for Alive Fetuses

Section 4

RESULTS AND CONCLUSIONS/DISCUSSION

CLINICAL INLIFE OBSERVATIONS AND SURVIVAL

Survival Bar Graph: Appendix A

Incidence of Gestation Observations: Appendix B

Individual Gestation Observations: Appendix B

All maternal animals survived to scheduled study termination on GD 21.

There were no clinical signs indicative of maternal toxicity. The majority of dams in all dose groups were free of observable abnormalities during the entire gestation period. Clinical signs were limited to alopecia of the extremities or trunk for two 2000 mg/m³ target females, dental abnormalities for one control female and scabs of the extremities for one control animal. Clinical signs were not evident in the 10,000 and 20,000 mg/m³ target females.

GESTATION BODY WEIGHT

Mean Gestation Body Weight and Body Weight Change: Appendix C

Individual Gestation Body Weight and Body Weight Change: Appendix C

There were no statistically significant differences in the mean gestation body weight, mean gestation body weight change, or mean uterine weight between treated and control dams at any interval during the gestation period. However there was a statistically significant linear trend (decrease) in dose response in the GD 5-8 body weight change and a statistically significant linear trend (increase) in dose response in the GD 14-17 body weight change. However, the pairwise analyses of the control data versus each treated group was not statistically significant; mean maternal body weight for the 20,000 mg/m³ target concentration group on GD 8 was 98.9% of the control mean value. The linear trend for the GD 14-17 body weight change was also not considered biologically significant due to the absence of statistically significant differences between the treated and control groups.

GESTATION FOOD CONSUMPTION

Mean Gestation Food Consumption: Appendix D

Individual Gestation Food Consumption: Appendix D

There were no statistically significant differences in mean gestation food consumption between treated and control dams at any interval during the gestation period. There were statistically significant linear trends (decreases) in dose response in the GD 5-8, GD 8-11, and GD 11-14 food consumption. These linear responses were not considered biologically significant due to the absence of statistically significant differences between the treated and control groups.

GROSS POSTMORTEM OBSERVATIONS

Incidence of Gross Postmortem Observations: Appendix E

Individual Gross Postmortem Observations: Appendix E

The gross postmortem examination of the dams revealed alopecia for one 2000 mg/m³ target dam and one 20,000 mg/m³ target dam. All other dams were free of grossly observable abnormalities.

UTERINE IMPLANTATION DATA

Mean Uterine Implantation Data: Appendix F

Individual Uterine Implantation Data: Appendix F

There were no statistically significant differences in the uterine implantation parameters between the control and the treated groups. However, there was an ordered response to dose for the number of male fetuses. This ordered response to dose was not considered biologically significant as the number of male fetuses in any treated group was not statistically significantly different from the number of male fetuses in the control group. Additionally, there were no dead fetuses in any group.

FETAL BODY WEIGHT

Mean Fetal Body Weight: Appendix G

Individual Fetal Body Weight: Appendix G

Statistician's Report – Appendix K

The mean fetal body weights in all treated groups were statistically significantly smaller than the mean fetal body weights in the control group. However, the treated groups mean fetal body weights were within the laboratory historical control range (males: 5.41-5.61 g; females: 5.16-5.31 g), while the control group weights were outside (greater) the historical control range. The mean litter size in the control group (14.96) was smaller than any treated group (15.50 – 16.25), and litter size can be inversely related to fetus weight (Romero, 1992). However, the statistical analysis of mean fetal body weight used litter size as a covariate, thus the difference in mean fetal body weight was not primarily based upon differences in average litter size. A comparison of mean litter weights (mean of the sum of all fetus weights/group) revealed that the litter weights of all groups were comparable and the control litter weights were the most variable (see Table 4-1). Most importantly, the mean fetal body weights of all treated groups do not statistically differ from each other; i.e., fetal body weight did not decrease with increased exposure level. This indicates that there was no dose effect (i.e. the exposure to 20,000 mg/m³ target concentration did not differ from the 2,000 mg/m³ target concentration). Consequently, the toxicological relevance of the decreases is unlikely and in our opinion the decreases are unrelated to treatment and do not indicate an adverse effect.

FETAL BODY WEIGHT (CONT'D)

Table 4-1 - Mean Fetus Weights by Sex and Mean Litter Weights

Fetus Weights (grams)				
Male	Target 0 mg/m ³	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	5.75	5.55	5.53	5.48
S.D.	0.35	0.43	0.43	0.38
N (litters)	24	24	24	24
Female	Target 0 mg/m ³	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	5.50	5.24	5.17	5.19
S.D.	0.34	0.38	0.41	0.40
N (litters)	24	24	24	24
Litter Weights (grams)				
	Target 0 mg/m ³	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	84.2	83.4	83.1	86.9
S.D.	15.8	14.5	11.3	9.6
Mean Litter Size	14.96	15.50	15.58	16.25

S.D. Standard Deviation

**Table 4-2 - Mean Fetal Weight of Combined Sexes
and the Least Squares Mean Fetal Weight**

Dose Group (Target mg/m ³)	Number of litters	Number of Fetuses	Observed Fetus Mean (grams)	Least Squares Fetus Mean [†] (grams)
0	24	359	5.63	5.62
2,000	24	372	5.38	5.38**
10,000	24	374	5.33	5.34**
20,000	24	390	5.35	5.36**

[†] - The least squares mean accounts for litter size.

** - different from control p<0.01 by a mixed model analysis of variance using least squares mean fetal weights for the pairwise comparisons

FETAL OBSERVATIONS

Incidence of Fetal Observations: Appendix H

Individual Fetal Observations: Appendix H

Statistician's Report – Appendix K

There were no statistically significant differences between the control and the treated groups for external variations and malformations, visceral variations and malformations, or skeletal variations and malformations on either a fetus or litter basis.

External Observations

Malrotated hindpaw was the only external finding. This malformation was observed in one fetus in the control and 2000 mg/m³ target concentration groups, respectively.

Visceral Observations

Hydroureter, retinal fold, and umbilical artery on the left side of the urinary bladder were the only visceral observations. Hydroureter was evident in one control fetus, one 10,000 mg/m³ target fetus, and three 20,000 mg/m³ target fetuses (two litters). Retinal fold was evident in two control fetuses (two litters) and two 20,000 mg/m³ target fetuses (two litters). The observation of umbilical artery on the left side of the urinary bladder was evident in one 10,000 mg/m³ target fetus.

Skeletal Observations

The skeletal specimens became slightly over-macerated during skeletal processing. The over-maceration caused the appendages of numerous fetuses to become detached from the rest of the body. The technicians evaluating the skeletons evaluated the intact fetuses and the trunks of all specimens and recorded the bones that were missing as described in the Standard Operating Procedures. The technicians also evaluated all of the loose bones that were present in the skeletal containers and recorded the observations for these bones. It should be noted that the specimens were fragile when they were evaluated and additional skeletons became detached during the evaluations. The fragile fetuses were placed in filter-paper bags in order to keep the remaining bones together.

Skeletal observations were limited to hypoplastic (reduced ossification) or unossified sternbrae, supernumerary or rudimentary lumbar ribs, hypoplastic vertebral centra in the thoracic or lumbar areas, an extra presacral vertebra, and hypoplastic vertebral centra anlage.

There were no statistically or biologically significant differences between control and exposed groups.

EXPOSURE DATA AND CHAMBER CONDITIONS

Summary of Exposure Data: Appendix I

The range of chamber concentrations for the exposure period as represented by the daily mean analytical data and nominal data of each day are listed in Table 4-3:

Table 4-3 - Mean Exposure Concentrations (Analytical and Nominal)

	Target 2000 mg/m ³		Target 10,000 mg/m ³		Target 20,000 mg/m ³	
	Analytical	Nominal	Analytical	Nominal	Analytical	Nominal
Mean	1979	1897	10676	10467	20638	18712
S.D.	98.0	125	309.8	196.1	452.1	548.8
Minimum	1837	1600	10123	10021	19672	17686
Maximum	2193	2115	11484	10789	21223	19707

S.D. - Standard deviation

Satisfactory chamber uniformity was observed for the 12 points in the chamber that were analyzed. The range of concentrations for each chamber are listed in Table 4-4.

Table 4-4 - Summary of Chamber Uniformity (mg/m³)

	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	1997	10495	19996
S.D.	56.41	194.97	275.75
CV (%)	2.82	1.86	1.38
Minimum	1927	10156	19331
Maximum	2113	10761	20389

S.D. - Standard deviation

CV - Coefficient of variation

The particle size determination for the control chamber detected particles at a level of 2.7 mg/m³. The particle size determination for the 20,000 mg/m³ target chamber was performed on three different occasions and detected particles at levels of 2.0, 31.1, and 11.1 mg/m³. Thus, indicating there was minimal aerosol component to the chamber concentrations.

The oxygen levels in the chambers ranged from 20.4 to 20.8% at the intervals when they were monitored. The noise level in the chambers ranged from 74.5 to 82.3 db. The light intensity in the chamber room ranged from 36.1 foot-candles to 45.8 foot-candles.

DISCUSSION

No maternal toxicity was produced at any exposure level. There was a statistically significant linear trend (decrease) in dose response in the GD 5-8 body weight change. However, the pairwise analyses of the control data versus each treated group was not statistically significant, and there were no statistically significant differences in gestation body weight. The mean body weights for all treated groups for GD 8 and all subsequent body weight intervals were not statistically significantly different from the control body weights.

There were statistically significant decreases in fetal body weights of all exposed groups. These decreases were considered to be neither treatment related nor biologically significant for the following reasons:

- The mean fetal weights of the treatment groups were within the historical control range of the laboratory. The mean fetal body weights determined in the control group were above this laboratory's historical control mean fetal body weight range and likewise the MARTA historical control data base (mean fetal body weights) for Charles River (Raleigh facility) rat fetuses obtained from dams on GD 21.
- The mean litter weights were not statistically significantly different from the control group. Moreover, a comparison of mean litter weights (mean of the sum of all fetus weights/group) revealed that the litter weights of all groups were comparable and the control litter weights were the most variable (see Table 4-1).
- The mean litter size in the control group was smaller than any treated group. It must be remembered that among animals which deliver multiple offspring, individual fetal body weights tend to be heavier in smaller litters, as was seen in this study (Romero, 1992). As the statistical analysis used litter size as a covariate, this was not a major factor in fetal weight, but may still have exerted some influence upon it.
- There was no dose response in the mean fetal weights of the treated groups. The fetal weights of the treated groups were not statistically significantly different from each other. If the lower fetal weights in the treated groups were truly related to treatment, one would expect that the mean fetal weight of the group exposed to a target concentration of 20,000 mg/m³ would be at least substantially lower than the mean fetal weight of the group exposed to a target concentration of 2000 mg/m³.
- Finally, no evidence of developmental toxicity, particularly delays in ossification were observed in the treatment groups.

DISCUSSION

In conclusion, administration of the test substance to rats by whole-body inhalation exposure during the period of organogenesis and fetal growth did not result in maternal or developmental toxicity.

Therefore, the No Observable Adverse Effect Levels (NOAELs) for maternal and developmental toxicity for this study were established at the target dose of 20,000 mg/m³.

PROTOCOL EXCEPTIONS

ANIMALS OUT OF WEIGHT RANGE: Four animals were over the 200-300 gram body weight range at Gestation Day 0 as specified by the protocol. The following is a list of the animals and their weight.

Animal Number	Target Exposure Concentration	
	Group (mg/m ³)	Weight (grams)
IGK210	0	303
IGK232	10,000	304
IGK267	10,000	311
IGK241	20,000	308

This deviation had no adverse effect on the study results or integrity.

10,000 MG/M³ TARGET CHAMBER CONCENTRATION: The mean chamber concentrations for the 10,000 mg/m³ target chamber was outside the acceptable range ($\pm 10\%$) on four days. The following is a list of the dates and the extent of the deviation:

Date	Mean Concentration (mg/m ³)
May 27, 2001	11003
June 2, 2001	11030
June 3, 2001	11380
June 14, 2001	11484

These deviations had no adverse effect on the study results or integrity.

CHAMBER TEMPERATURE AND HUMIDITY: Due to the method used to generate the test substance atmospheres, the chamber-room air was kept as cool as possible to keep the temperature in the 10,000 mg/m³ and the 20,000 mg/m³ target concentration chambers from exceeding the protocol-defined range. The cooler room air resulted in numerous instances of the mean temperature in the control chamber being below the protocol-defined range. The decreased temperature also caused the humidity in the chambers to be above the protocol-defined range on numerous occasions. Due to the number of temperature and humidity deviations they can not be presented here. The deviations are presented in Appendix I as the values in bold italics.

ANALYSIS OF CHAMBER CHARACTERIZATION: The samples collected for chamber characterization during Weeks 1 and 2 were not analyzed due to significant sample breakthrough in the sorbent tubes. The sampling procedure was changed for Weeks 3 and 4 and those samples were analyzed.

These deviations had no adverse effect on the study results or integrity.

PROTOCOL EXCEPTIONS (CONT'D)

CHAMBER CONSTRUCTION: The protocol specified that the chambers were constructed of stainless steel and glass. The actual chamber construction was stainless steel, glass, and acrylic.

This deviation had no adverse effect on the study results or integrity.

SKELETAL SPECIMENS: The skeletal specimens were slightly over-macerated during the skeletal processing. The over-maceration caused the appendages of numerous fetuses to become detached from the rest of the body. The technicians evaluating the skeletons evaluated the intact fetuses and the trunks of all specimens and recorded the bones that were missing as described in the Standard Operating Procedures. The technicians also evaluated all of the loose bones that were present in the skeletal containers and recorded the observations for these bones. It should be noted that the specimens were fragile when they were evaluated and additional skeletons became detached during the evaluations. The fragile fetuses were placed in filter-paper bags in order to keep the remaining bones together.

This deviation is believed to have had no adverse effect on the study results because it was possible to evaluate all skeletal structures. However, re-examination of these specimens probably will not be possible.

No other circumstances occurred that would have affected the quality or integrity of the data.

Section 5

LIST OF ABBREVIATIONS

STATISTICAL SYMBOLS AND ABBREVIATIONS

<u>No difference</u>	<u>p...0.05</u>	<u>p...0.01</u>	<u>Statistical Statement</u>
(PARAMETRIC)			
A-	A	A+	No statistical difference among the means Significant difference among the means
L-	L	L+	No linear response to the dose levels Response is linearly related to dose
	Q	Q+	Linear response shows lack of fit
(NONPARAMETRIC)			
K-	K	K+	No statistical difference among the means Means differ significantly
J-	J	J+	No ordered response to the dose levels An ordered response to the dose levels
	*	**	Mean significantly different from control mean
NT			Data not tested

LIST OF ABBREVIATIONS (CONT'D)

UTERINE IMPLANTATION DATA ABBREVIATIONS

<u>ABBREVIATION</u>	<u>PARAMETER</u>
Resorp	Resorptions (early and late)
Implants	Implantation sites
CL	Corpora Lutea
Preimplant	Pre implantation loss = (corpora lutea - implantation sites)/corpora lutea x 100
Postimplant	Post implantation loss = (implantation sites - total live)/implantation sites x 100
Mal	Live fetuses with malformations
Var	Live fetuses with variations
Total Affected	Resorptions + dead + malformations
F/I Tran	Fetuses/implantation sites transformed
R/I Tran	Resorptions/implantation sites transformed
D/I Tran	Dead/implantation sites transformed

FETAL EXTERNAL, VISCERAL, AND SKELETAL EXAMINATIONS

Stunted = Any fetus weighing less than 4.00 grams

Organs and tissues examined

External:	General body size, contour, and integrity (e.g. head,spine,abdomen); limbs; digits; pinnae; eye bulges; palate/lip; tongue; snout/jaw; anogenital region; tail
Viseral:	Urogenital system; adrenals; stomach; spleen; pancreas; thymus; large/small intestines; liver; lungs; heart and associated major vessels; thyroid; trachea; esophagus; brain ventricles (single free-hand razor section)

Skeletal abbreviations

STERNEBRAE:	VERTEBRAE:	RIBS:
I - Manubrium	CE - Cervical	CE - Cervical
II, III,	T - Thoracic	T - Thoracic
IV, V - Sternal centers	L - Lumbar	L - Lumbar
VI - Xiphoid	S - Sacral	
	CA - Caudal	

Malformations are indicated by a capitalized footnote (e.g. "A"). Developmental variations are indicated by a lower case footnote (e.g. "a"). Observations which are not considered malformations or variations are indicated by an asterisk (e.g. "*").

Section 6

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APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 0 MG/M³

ANIMAL NUMBER	GD:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK143F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK189F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK152F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK145F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK170F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK169F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK208F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK176F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK201F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK197F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK217F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK240F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK226F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK171F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK199F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK210F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK222F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGK228F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK262F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK249F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK254F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK211F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK213F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK220F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK257F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

NOTE: GD - GESTATION DAY N - NOT PREGNANT P - PREGNANT
= - 24 HOURS

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 2000 MG/M³

ANIMAL NUMBER	GD:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK186F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGK150F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK162F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK144F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK166F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK168F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK198F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK194F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK195F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK164F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK173F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK181F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK187F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK223F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK233F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK237F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK148F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK219F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK212F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK259F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK218F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK276F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK234F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK256F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK287F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

NOTE: GD - GESTATION DAY N - NOT PREGNANT P - PREGNANT
= - 24 HOURS

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 10,000 MG/M³

ANIMAL NUMBER	GD:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK156F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK174F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK147F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGK154F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK146F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK161F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK206F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK163F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK172F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK202F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK157F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK182F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK207F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK250F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK203F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK247F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK177F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK271F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK273F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK221F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK224F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK231F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK232F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK269F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK267F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

NOTE: GD - GESTATION DAY N - NOT PREGNANT P - PREGNANT
= - 24 HOURS

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 20,000 MG/M³

ANIMAL NUMBER	GD:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK159F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK160F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGK155F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK165F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK175F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK149F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK153F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK204F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK167F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK214F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK158F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK184F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK216F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK241F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK245F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK151F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK253F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK266F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK258F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK205F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK243F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK255F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK275F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK227F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGK284F (21)		=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

NOTE: GD - GESTATION DAY N - NOT PREGNANT P - PREGNANT
= - 24 HOURS

APPENDIX B - GESTATION OBSERVATIONS
(INCIDENCE OF GESTATION OBSERVATIONS BY TARGET DOSE)

GESTATION DAY	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
SURVIVORS (A)																						
0 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
2000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
10,000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
20,000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
NO OBSERVABLE ABNORMALITIES																						
0 MG/M ³	24	24	24	23	23	24	24	24	24	24	24	24	23	23	23	23	23	23	24	24	24	24
2000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	23	24	24	24	24	24	24	24	23
10,000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
20,000 MG/M ³	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
ALOPECIA (EXTREMITIES OR TRUNK)																						
0 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
10,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DENTAL ABNORMALITIES																						
0 MG/M ³	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCABS EXTREMITIES																						
0 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0
2000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20,000 MG/M ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: (A) - TOTALS DO NOT INCLUDE NON-PREGNANT ANIMALS

B-1

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 0 MG/M³

ANIMAL																									
<u>NUMBER</u>	<u>OBSERVATION</u>	<u>DAY:</u>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
IGK143F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK189F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK152F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK145F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK170F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK169F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK208F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK176F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK201F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK197F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK217F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK240F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IGK226F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 0 MG/M³ (CONT'D)

<u>ANIMAL</u> <u>NUMBER</u>	<u>OBSERVATION</u>	<u>DAY:</u>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK171F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK199F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK210F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK222F	ANIMAL NOT PREGNANT																							
IGK228F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	+	+	+	+
	SCABS EXTREMITIES		-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+				
IGK262F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK249F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK254F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK211F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK213F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK220F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK257F	NO OBSERVABLE ABNORMALITIES		+	+	+	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	DENTAL ABNORMALITIES		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 2000 MG/M³

ANIMAL NUMBER	OBSERVATION	DAY:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK186F	ANIMAL NOT PREGNANT																							
IGK150F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK162F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK144F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK166F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK168F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK198F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK194F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK195F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK164F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK173F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK181F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK187F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 2000 MG/M³ (CONT'D)

ANIMAL NUMBER	OBSERVATION	DAY:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK223F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK233F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK237F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK148F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	ALOPECIA EXTREMITIES		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
IGK219F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK212F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK259F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK218F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK276F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK234F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+
	ALOPECIA TRUNK		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
IGK256F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK287F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 10,000 MG/M³

ANIMAL NUMBER	OBSERVATION	DAY:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK156F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK174F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK147F	ANIMAL NOT PREGNANT																							
IGK154F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK146F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK161F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK206F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK163F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK172F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK202F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK157F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK182F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK207F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 10,000 MG/M³ (CONT'D)

ANIMAL NUMBER	OBSERVATION	DAY:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK250F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK203F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK247F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK177F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK271F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK273F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK221F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK224F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK231F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK232F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK269F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK267F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGET DOSE: 20,000 MG/M³

<u>ANIMAL</u> <u>NUMBER</u>	<u>OBSERVATION</u>	<u>DAY:</u>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK159F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK160F	ANIMAL NOT PREGNANT																							
IGK155F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK165F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK175F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK149F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK153F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK204F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK167F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK214F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK158F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK184F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK216F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS)
TARGETDOSE: 20,000 MG/M³ (CONT'D)

ANIMAL NUMBER	OBSERVATION	DAY:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IGK241F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK245F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK151F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK253F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK266F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK258F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK205F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK243F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK255F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK275F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK227F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGK284F	NO OBSERVABLE ABNORMALITIES		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(MEAN GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS FOR STATISTICAL SYMBOLS ON PAGES 5-1 AND 5-2)
(GRAMS)

	<u>GD 0</u>	<u>GD 5</u>	<u>GD 8</u>	<u>GD 11</u>	<u>GD 14</u>	<u>GD 17</u>	<u>GD 20</u>	<u>GD 21</u>	<u>UTERUS</u>	<u>GD 21C</u>
FEMALE	A-L-	A-L-	A-L-	A-L-	A-L-	A-L-	A-L-	A-L-	A-L-	A-L-
0 MG/M ³										
MEAN	273.3	303.3	311.6	323.7	336.7	367.0	416.8	439.1	115.5	323.6
STD.DEV.	17	18.3	19.7	20.9	22.8	24.4	29.5	33.3	19.9	21.4
(N)	24	24	24	24	24	24	24	24	24	24
2000 MG/M ³										
MEAN	274.3	305.6	313.7	325.0	339.0	370.2	421.5	441.2	116.7	324.5
STD.DEV.	12.7	16.9	17.6	17.7	19.6	21.0	27.0	28.3	19.7	21.1
(N)	24	24	24	24	24	24	24	24	24	24
10,000 MG/M ³										
MEAN	274.4	307.2	314.3	324.3	336.3	368.5	420.7	441.4	115.8	325.5
STD.DEV.	16.8	18.9	20.7	21.2	21.2	21.7	26.8	29.5	14.1	22.4
(N)	24	24	24	24	24	24	24	24	24	24
20,000 MG/M ³										
MEAN	272.8	302.7	308.2	319.8	332	365.8	416.4	439.5	118.8	320.7
STD.DEV.	16.5	15.8	15.3	15.8	16.3	17.3	20.5	20.5	11.4	16.0
(N)	24	24	24	24	24	24	24	24	24	24

NOTES:

GD = Gestation Day

A- = No statistical difference among the means

L- = No linear trend in the dose response

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(MEAN GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS FOR STATISTICAL SYMBOLS ON PAGES 5-1 AND 5-2)
(GRAMS)**

	<u>GD 0-5</u>	<u>GD 5-8</u>	<u>GD 8-11</u>	<u>GD 11-14</u>	<u>GD 14-17</u>	<u>GD 17-20</u>	<u>GD 20-21</u>	<u>GD 5-21</u>	<u>GD 0-21</u>	<u>GD 0-21C</u>
FEMALE	A-L-	A-L	A-L-	A-L-	A-L	A-L-	A-L-	A-L-	A-L-	A-L-
0 MG/M ³										
MEAN	30.0	8.3	12.1	13.0	30.3	49.7	22.4	135.8	165.9	50.4
STD.DEV.	7.2	5.5	4.2	4.7	5.8	9.0	8.3	21.0	22.9	11.5
(N)	24	24	24	24	24	24	24	24	24	24
2000 MG/M ³										
MEAN	31.3	8.1	11.3	14.0	31.3	51.3	19.7	135.6	166.9	50.2
STD.DEV.	7.1	3.4	5.2	5.4	6.3	9.8	5.5	17.9	19.4	14.3
(N)	24	24	24	24	24	24	24	24	24	24
10,000 MG/M ³										
MEAN	32.8	7.1	10.0	12.0	32.2	52.2	20.7	134.2	167.0	51.1
STD.DEV.	8.1	4.9	5.6	4.3	6.1	7.8	6.6	17.5	19.9	12.9
(N)	24	24	24	24	24	24	24	24	24	24
20,000 MG/M ³										
MEAN	29.9	5.5	11.7	12.2	33.8	50.5	23.1	136.8	166.6	47.9
STD.DEV.	7.7	6.1	5.2	5.1	6.4	8.2	6.3	11.4	12.4	12.6
(N)	24	24	24	24	24	24	24	24	24	24

NOTES:

GD - GESTATION DAY

21C (DAY 21 CORRECTED) = DAY 21 BODY WEIGHT - UTERINE WEIGHT

A- = No statistical difference among the means

L- = No linear trend in the dose response, L = Linear trend in dose response (p≤ 0.05)

C-2

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)
(GRAMS)**

ANIMAL NUMBER	DOSE: 0 MG/M ³									UTERINE WEIGHT
	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	GD 21C	
IGK143F	282	317	332	345	360	394	439	464	331	133
IGK189F	284	322	335	347	372	404	467	497	364	133
IGK152F	269	297	306	321	343	376	442	458	318	140
IGK145F	248	286	287	295	305	328	381	398	298	100
IGK170F	242	268	275	280	293	321	362	372	273	99
IGK169F	260	288	293	306	319	342	385	397	301	96
IGK208F	250	279	288	303	312	351	401	428	312	116
IGK176F	277	301	319	328	335	364	391	403	345	58
IGK201F	253	282	279	296	311	339	383	415	307	108
IGK197F	279	311	321	332	351	385	438	461	326	135
IGK217F	275	300	318	330	339	381	429	476	338	138
IGK240F	264	285	291	307	312	337	377	401	303	98
IGK226F	296	337	340	353	364	382	439	470	340	130
IGK171F	298	315	331	345	360	393	459	471	348	123
IGK199F	280	304	310	317	325	347	403	426	318	108
IGK210F	303	337	345	364	381	411	463	490	361	129
IGK222F NP										
IGK228F	286	319	326	343	354	386	445	473	331	142
IGK262F	274	310	313	324	338	372	416	440	315	125
IGK249F	297	327	328	342	353	386	431	456	347	109
IGK254F	268	286	290	307	321	354	402	421	311	110
IGK211F	258	288	302	304	313	345	389	408	305	103
IGK213F	256	303	313	323	339	369	421	442	320	122
IGK220F	287	312	322	329	339	377	431	451	323	128
IGK257F	272	305	314	327	342	365	408	421	332	89

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)**

ANIMAL NUMBER	(GRAMS)									UTERINE WEIGHT
	DOSE: 2000 MG/M ³									
GD	GD	GD	GD	GD	GD	GD	GD	GD	GD	
<u>0</u>	<u>5</u>	<u>8</u>	<u>11</u>	<u>14</u>	<u>17</u>	<u>20</u>	<u>21</u>	<u>21C</u>		
IGK186F NP										
IGK150F	265	286	299	313	327	358	409	421	296	125
IGK162F	260	293	297	309	308	351	385	417	313	104
IGK144F	272	299	307	321	334	367	406	423	329	94
IGK166F	273	299	300	312	339	371	430	460	325	135
IGK168F	271	305	316	337	355	388	457	476	341	135
IGK198F	288	326	331	340	354	395	442	462	347	115
IGK194F	251	275	283	298	304	326	366	380	295	85
IGK195F	267	288	302	311	329	359	414	436	307	129
IGK164F	259	284	290	304	318	347	398	415	289	126
IGK173F	261	297	301	316	332	359	409	425	314	111
IGK181F	292	340	347	363	379	416	479	503	357	146
IGK187F	275	308	315	323	335	371	425	445	319	126
IGK223F	290	311	319	335	352	386	442	473	355	118
IGK233F	251	274	279	290	301	333	383	398	295	103
IGK237F	282	310	317	320	337	362	416	433	303	130
IGK148F	277	313	320	333	350	377	432	447	333	114
IGK219F	280	310	316	331	339	357	396	421	330	91
IGK212F	289	323	335	349	364	403	468	486	337	149
IGK259F	285	313	324	333	344	374	434	456	326	130
IGK218F	272	307	319	319	333	370	414	433	330	103
IGK276F	276	308	314	323	340	370	430	451	316	135
IGK234F	280	320	329	327	334	371	429	441	317	124
IGK256F	299	334	345	358	373	399	447	463	360	103
IGK287F	269	311	324	335	354	375	405	424	355	69

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)**

ANIMAL NUMBER	(GRAMS)									UTERINE WEIGHT
	GD <u>0</u>	GD <u>5</u>	GD <u>8</u>	DOSE: 10,000 MG/M ³			GD <u>20</u>	GD <u>21</u>	GD <u>21C</u>	
IGK156F	266	287	292	306	314	346	406	427	310	117
IGK174F	260	299	305	309	322	360	399	424	316	108
IGK147F NP										
IGK154F	282	316	322	336	341	383	441	457	340	117
IGK146F	270	298	300	313	321	352	398	410	322	88
IGK161F	297	326	334	352	365	393	441	459	347	112
IGK206F	264	303	314	318	333	351	387	398	317	81
IGK163F	261	299	307	319	331	374	426	459	325	134
IGK172F	277	301	305	314	333	368	422	447	337	110
IGK202F	264	305	310	327	340	376	422	454	341	113
IGK157F	262	281	289	299	309	343	391	415	298	117
IGK182F	272	304	308	320	337	368	419	440	327	113
IGK207F	252	290	301	308	329	354	405	427	315	112
IGK250F	271	298	297	319	323	364	421	441	303	138
IGK203F	270	303	307	326	332	368	419	452	337	115
IGK247F	280	321	325	337	345	376	438	462	336	126
IGK177F	296	333	348	353	369	403	465	482	357	125
IGK271F	238	275	280	278	293	328	375	391	272	119
IGK273F	282	331	328	335	349	379	424	440	320	120
IGK221F	264	288	299	306	315	339	384	393	298	95
IGK224F	271	301	308	317	333	354	411	431	311	120
IGK231F	281	303	319	327	338	372	428	444	322	122
IGK232F	304	352	370	379	392	423	493	522	376	146
IGK269F	291	319	327	331	344	373	428	445	328	117
IGK267F	311	339	347	354	363	397	454	473	358	115

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)**

ANIMAL NUMBER	DOSE: 20,000 MG/M ³									UTERINE WEIGHT
	GD <u>0</u>	GD <u>5</u>	GD <u>8</u>	GD <u>11</u>	GD <u>14</u>	GD <u>17</u>	GD <u>20</u>	GD <u>21</u>	GD <u>21C</u>	
IGK159F	265	319	317	326	342	381	432	456	337	119
IGK160F NP										
IGK155F	278	306	311	318	338	369	418	439	316	123
IGK165F	266	296	303	318	328	366	406	428	318	110
IGK175F	269	304	296	309	328	376	429	441	302	139
IGK149F	282	315	318	333	340	374	427	444	335	109
IGK153F	266	300	305	320	338	369	419	443	321	122
IGK204F	272	302	317	319	341	364	424	455	341	114
IGK167F	224	261	267	272	280	319	362	378	274	104
IGK214F	270	296	320	331	347	392	443	465	335	130
IGK158F	264	295	295	312	326	370	406	440	315	125
IGK184F	278	312	316	325	335	369	417	437	311	126
IGK216F	264	286	294	300	318	345	389	417	315	102
IGK241F	308	328	328	342	349	379	443	465	329	136
IGK245F	262	284	291	307	317	345	416	429	295	134
IGK151F	280	292	295	316	320	350	395	431	331	100
IGK253F	293	320	329	351	360	399	449	471	344	127
IGK266F	285	310	318	323	334	361	406	429	317	112
IGK258F	293	322	325	337	354	382	442	468	336	132
IGK205F	270	303	303	317	326	360	417	440	326	114
IGK243F	260	293	300	316	330	355	398	425	322	103
IGK255F	261	295	301	313	316	351	391	423	307	116
IGK275F	274	305	316	324	333	365	414	432	317	115
IGK227F	299	332	334	339	348	385	438	464	336	128
IGK284F	265	289	297	308	320	354	412	427	317	110

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)**

ANIMAL NUMBER	DOSE: 0 MG/M ³									
	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21	GD 5-21	GD 0-21	GD 0-21C
IGK143F	35	15	13	15	34	45	25	147	182	49
IGK189F	38	13	12	25	32	63	30	175	213	80
IGK152F	28	9	15	22	33	66	16	161	189	49
IGK145F	38	1	8	10	23	53	17	112	150	50
IGK170F	26	7	5	13	28	41	10	104	130	31
IGK169F	28	5	13	13	23	43	12	109	137	41
IGK208F	29	9	15	9	39	50	27	149	178	62
IGK176F	24	18	9	7	29	27	12	102	126	68
IGK201F	29	-3	17	15	28	44	32	133	162	54
IGK197F	32	10	11	19	34	53	23	150	182	47
IGK217F	25	18	12	9	42	48	47	176	201	63
IGK240F	21	6	16	5	25	40	24	116	137	39
IGK226F	41	3	13	11	18	57	31	133	174	44
IGK171F	17	16	14	15	33	66	12	156	173	50
IGK199F	24	6	7	8	22	56	23	122	146	38
IGK210F	34	8	19	17	30	52	27	153	187	58
IGK222F NP										
IGK228F	33	7	17	11	32	59	28	154	187	45
IGK262F	36	3	11	14	34	44	24	130	166	41
IGK249F	30	1	14	11	33	45	25	129	159	50
IGK254F	18	4	17	14	33	48	19	135	153	43
IGK211F	30	14	2	9	32	44	19	120	150	47
IGK213F	47	10	10	16	30	52	21	139	186	64
IGK220F	25	10	7	10	38	54	20	139	164	36
IGK257F	33	9	13	15	23	43	13	116	149	60

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)**

ANIMAL NUMBER	DOSE: 2000 MG/M ³									
	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21	GD 5-21	GD 0-21	GD 0-21C
IGK186F NP										
IGK150F	21	13	14	14	31	51	12	135	156	31
IGK162F	33	4	12	-1	43	34	32	124	157	53
IGK144F	27	8	14	13	33	39	17	124	151	57
IGK166F	26	1	12	27	32	59	30	161	187	52
IGK168F	34	11	21	18	33	69	19	171	205	70
IGK198F	38	5	9	14	41	47	20	136	174	59
IGK194F	24	8	15	6	22	40	14	105	129	44
IGK195F	21	14	9	18	30	55	22	148	169	40
IGK164F	25	6	14	14	29	51	17	131	156	30
IGK173F	36	4	15	16	27	50	16	128	164	53
IGK181F	48	7	16	16	37	63	24	163	211	65
IGK187F	33	7	8	12	36	54	20	137	170	44
IGK223F	21	8	16	17	34	56	31	162	183	65
IGK233F	23	5	11	11	32	50	15	124	147	44
IGK237F	28	7	3	17	25	54	17	123	151	21
IGK148F	36	7	13	17	27	55	15	134	170	56
IGK219F	30	6	15	8	18	39	25	111	141	50
IGK212F	34	12	14	15	39	65	18	163	197	48
IGK259F	28	11	9	11	30	60	22	143	171	41
IGK218F	35	12	0	14	37	44	19	126	161	58
IGK276F	32	6	9	17	30	60	21	143	175	40
IGK234F	40	9	-2	7	37	58	12	121	161	37
IGK256F	35	11	13	15	26	48	16	129	164	61
IGK287F	42	13	11	19	21	30	19	113	155	86

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)**

ANIMAL NUMBER	DOSE: 10,000 MG/M ³									
	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21	GD 5-21	GD 0-21	GD 0-21C
IGK156F	21	5	14	8	32	60	21	140	161	44
IGK174F	39	6	4	13	38	39	25	125	164	56
IGK147F NP										
IGK154F	34	6	14	5	42	58	16	141	175	58
IGK146F	28	2	13	8	31	46	12	112	140	52
IGK161F	29	8	18	13	28	48	18	133	162	50
IGK206F	39	11	4	15	18	36	11	95	134	53
IGK163F	38	8	12	12	43	52	33	160	198	64
IGK172F	24	4	9	19	35	54	25	146	170	60
IGK202F	41	5	17	13	36	46	32	149	190	77
IGK157F	19	8	10	10	34	48	24	134	153	36
IGK182F	32	4	12	17	31	51	21	136	168	55
IGK207F	38	11	7	21	25	51	22	137	175	63
IGK250F	27	-1	22	4	41	57	20	143	170	32
IGK203F	33	4	19	6	36	51	33	149	182	67
IGK247F	41	4	12	8	31	62	24	141	182	56
IGK177F	37	15	5	16	34	62	17	149	186	61
IGK271F	37	5	-2	15	35	47	16	116	153	34
IGK273F	49	-3	7	14	30	45	16	109	158	38
IGK221F	24	11	7	9	24	45	9	105	129	34
IGK224F	30	7	9	16	21	57	20	130	160	40
IGK231F	22	16	8	11	34	56	16	141	163	41
IGK232F	48	18	9	13	31	70	29	170	218	72
IGK269F	28	8	4	13	29	55	17	126	154	37
IGK267F	28	8	7	9	34	57	19	134	162	47

**APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)**

ANIMAL NUMBER	DOSE: 20,000 MG/M ³									
	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21	GD 5-21	GD 0-21	GD 0-21C
IGK159F	54	-2	9	16	39	51	24	137	191	72
IGK160F NP										
IGK155F	28	5	7	20	31	49	21	133	161	38
IGK165F	30	7	15	10	38	40	22	132	162	52
IGK175F	35	-8	13	19	48	53	12	137	172	33
IGK149F	33	3	15	7	34	53	17	129	162	53
IGK153F	34	5	15	18	31	50	24	143	177	55
IGK204F	30	15	2	22	23	60	31	153	183	69
IGK167F	37	6	5	8	39	43	16	117	154	50
IGK214F	26	24	11	16	45	51	22	169	195	65
IGK158F	31	0	17	14	44	36	34	145	176	51
IGK184F	34	4	9	10	34	48	20	125	159	33
IGK216F	22	8	6	18	27	44	28	131	153	51
IGK241F	20	0	14	7	30	64	22	137	157	21
IGK245F	22	7	16	10	28	71	13	145	167	33
IGK151F	12	3	21	4	30	45	36	139	151	51
IGK253F	27	9	22	9	39	50	22	151	178	51
IGK266F	25	8	5	11	27	45	23	119	144	32
IGK258F	29	3	12	17	28	60	26	146	175	43
IGK205F	33	0	14	9	34	57	23	137	170	56
IGK243F	33	7	16	14	25	43	27	132	165	62
IGK255F	34	6	12	3	35	40	32	128	162	46
IGK275F	31	11	8	9	32	49	18	127	158	43
IGK227F	33	2	5	9	37	53	26	132	165	37
IGK284F	24	8	11	12	34	58	15	138	162	52

NOTE: NP - ANIMAL NOT PREGNANT GD - GESTATION DAY
21C (DAY 21 CORRECTED) = DAY 21 BODY WEIGHT - UTERINE WEIGHT

APPENDIX D - GESTATION FOOD CONSUMPTION
(MEAN GESTATION FOOD CONSUMPTION BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS FOR STATISTICAL SYMBOLS ON PAGES 5-1 AND 5-2)
(GRAMS)

	<u>GD 0-5</u>	<u>GD 5-8</u>	<u>GD 8-11</u>	<u>GD 11-14</u>	<u>GD 14-17</u>	<u>GD 17-20</u>	<u>GD 20-21</u>	<u>GD 5-20</u>	<u>GD 0-21</u>
FEMALE	A-L-	A-L	A-L+	A-L	A-L-	A-L-	K-J-	A-L-	A-L-
0 MG/M ³									
MEAN	120.2	73.5	73.8	74.5	78.0	81.7	27.5	380.9	528.6
STD.DEV.	10.4	8.2	6.2	6.7	5.8	7.6	6.7	29.8	41.6
(N)	23	24	24	24	23	23	24	23	22
2000 MG/M ³									
MEAN	122.3	74.8	74.0	75.2	77.8	82.1	24.8	386.6	535.7
STD.DEV.	9.3	4.4	6.3	5.8	7.1	6.5	3.9	23.3	30.6
(N)	23	24	22	24	24	24	24	22	21
10,000 MG/M ³									
MEAN	125.0	72.0	71.5	72.1	76.5	81.9	24.3	374.0	523.3
STD.DEV.	13.2	7.5	7.6	6.1	5.3	6.0	3.5	28.5	39.9
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M ³									
MEAN	122.5	70.5	69.8	71.5	77.8	81.3	25.1	371.0	518.6
STD.DEV.	8.7	5.2	5.3	5.5	5.6	6.0	2.7	22.3	26.8
(N)	24	24	24	23	23	24	24	23	23

NOTES: GD = Gestation Day

A- = No statistical difference among the means (parametric test)_

L- = No linear trend in the dose response, L = Linear trend in dose response ($p \leq 0.05$), L+ = Linear trend in dose response ($p \leq 0.01$)
(parametric test)

K- = No statistical difference among the means (non-parametric test)

L- = No ordered response in the dose response (non-parametric test)

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION BY TARGET DOSE)
(GRAMS)

DOSE: 0 MG/M³

ANIMAL NUMBER	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21
IGK143F	131	93	84	81	81	75	25
IGK189F	136	87	84	90	94	98	34
IGK152F	117	71	76	80	80	97	24
IGK145F	111	64	67	67	68	77	29
IGK170F	99	63	66	62	69	71	20
IGK169F	115	72	71	71	74	72	22
IGK208F	109	57	64	66	78	77	27
IGK176F	110	77	79	81	N	N	28
IGK201F	111	67	69	68	75	74	30
IGK197F	128	81	81	81	81	84	24
IGK217F	126	80	79	75	83	82	35
IGK240F	106	63	67	66	79	77	24
IGK226F	135	75	74	71	73	77	28
IGK171F	118	74	72	78	78	93	54
IGK199F	111	74	64	70	66	76	28
IGK210F	124	76	79	82	82	89	27
IGK222F NP							
IGK228F	136	78	79	75	80	91	29
IGK262F	S	75	74	79	81	82	27
IGK249F	129	78	78	76	78	83	25
IGK254F	112	60	67	70	79	78	23
IGK211F	123	74	70	71	76	81	22
IGK213F	128	72	76	77	79	77	27
IGK220F	126	77	71	70	77	83	24
IGK257F	124	76	81	80	84	85	25

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION BY TARGET DOSE)
(GRAMS)

DOSE: 2000 MG/M³

ANIMAL NUMBER	GD <u>0-5</u>	GD <u>5-8</u>	GD <u>8-11</u>	GD <u>11-14</u>	GD <u>14-17</u>	GD <u>17-20</u>	GD <u>20-21</u>
IGK186F NP							
IGK150F	111	72	81	76	76	79	16
IGK162F	113	67	68	67	84	81	28
IGK144F	114	73	76	76	76	81	25
IGK166F	120	72	74	76	75	88	30
IGK168F	121	77	78	77	83	89	23
IGK198F	135	74	77	74	80	85	24
IGK194F	112	67	S	65	65	69	22
IGK195F	114	75	68	72	70	77	26
IGK164F	118	74	S	73	78	70	24
IGK173F	127	83	80	82	81	81	22
IGK181F	139	81	85	82	85	88	25
IGK187F	122	74	74	73	78	85	24
IGK223F	115	69	72	83	84	88	34
IGK233F	106	70	61	68	75	82	25
IGK237F	120	75	66	69	64	68	21
IGK148F	134	77	74	79	70	84	24
IGK219F	133	73	70	75	68	79	26
IGK212F	122	83	81	80	90	91	22
IGK259F	S	77	68	66	74	80	24
IGK218F	133	77	72	75	84	85	25
IGK276F	125	72	72	76	79	87	26
IGK234F	115	75	68	70	77	79	19
IGK256F	136	81	85	86	91	92	30
IGK287F	127	78	79	84	80	83	31

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION BY TARGET DOSE)
(GRAMS)

DOSE: 10,000 MG/M³

ANIMAL NUMBER	GD <u>0-5</u>	GD <u>5-8</u>	GD <u>8-11</u>	GD <u>11-14</u>	GD <u>14-17</u>	GD <u>17-20</u>	GD <u>20-21</u>
IGK156F	110	65	72	70	71	84	29
IGK174F	116	67	65	69	75	78	28
IGK147F NP							
IGK154F	128	76	77	71	76	86	25
IGK146F	114	67	73	65	72	84	22
IGK161F	125	78	83	79	78	82	20
IGK206F	127	76	70	69	68	73	18
IGK163F	132	75	78	72	90	82	27
IGK172F	114	73	71	75	75	82	25
IGK202F	131	66	73	76	76	81	27
IGK157F	106	67	66	70	73	75	24
IGK182F	123	74	75	82	82	82	23
IGK207F	115	70	61	68	73	80	25
IGK250F	111	66	71	72	77	79	25
IGK203F	128	71	71	70	79	87	31
IGK247F	130	73	70	64	73	83	26
IGK177F	132	80	80	84	84	96	22
IGK271F	116	57	54	61	72	72	18
IGK273F	144	69	65	69	72	78	21
IGK221F	117	70	69	68	78	79	19
IGK224F	121	67	69	70	70	76	22
IGK231F	120	73	72	71	79	84	24
IGK232F	166	97	92	86	84	97	29
IGK269F	131	71	64	72	76	78	26
IGK267F	144	79	74	78	84	87	27

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION BY TARGET DOSE)
(GRAMS)

DOSE: 20,000 MG/M³

ANIMAL NUMBER	GD <u>0-5</u>	GD <u>5-8</u>	GD <u>8-11</u>	GD <u>11-14</u>	GD <u>14-17</u>	GD <u>17-20</u>	GD <u>20-21</u>
IGK159F	135	74	71	77	78	82	28
IGK160F NP							
IGK155F	116	69	67	68	69	76	22
IGK165F	118	76	75	78	80	79	27
IGK175F	118	62	64	69	78	76	21
IGK149F	121	74	74	69	75	85	25
IGK153F	123	72	80	79	84	90	23
IGK204F	123	75	68	72	74	88	28
IGK167F	115	68	66	60	71	81	23
IGK214F	113	79	72	76	83	79	25
IGK158F	125	63	67	71	76	69	25
IGK184F	129	73	71	71	74	72	21
IGK216F	114	70	67	71	74	80	27
IGK241F	125	69	72	69	89	83	27
IGK245F	117	67	70	72	79	82	23
IGK151F	112	61	61	66	70	81	32
IGK253F	127	78	81	81	91	93	27
IGK266F	126	71	67	N	N	82	24
IGK258F	125	66	63	78	77	82	26
IGK205F	131	72	73	68	81	87	28
IGK243F	120	73	70	76	80	87	24
IGK255F	124	68	65	59	70	68	26
IGK275F	137	73	73	70	78	82	21
IGK227F	143	78	76	73	80	83	23
IGK284F	104	62	61	72	79	84	27

NOTE: GD - GESTATION DAY
NP - NOT PREGNANT

S - EXCESSIVE SPILLAGE
N - FEEDER WEIGHT INADVERTENTLY NOT RECORDED

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INCIDENCE OF GROSS POSTMORTEM OBSERVATIONS)**

	FEMALES			
	TARGET 0 MG/M ³	TARGET 2000MG/M ³	TARGET 10,000 MG/M ³	TARGET 20,000 MG/M ³
TOTAL AT TERMINAL SACRIFICE (A)	25	25	25	25
NO OBSERVABLE ABNORMALITIES	25	24	25	24
Alopecia	0	1	0	1
NO EVIDENCE OF UTERINE IMPLANTATION SITES	1	1	1	1

NOTE: (A) - INCLUDES NON-PREGNANT ANIMALS

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)
DOSE: 0 MG/M³**

IGK143F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK189F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK152F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK145F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK170F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK169F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK208F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK176F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK201F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK197F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK217F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK240F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK226F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK171F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK199F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK210F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK222F - ALL TISSUES AND ORGANS: No observable abnormalities
NOTE: No evidence of uterine implantation sites.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 0 MG/M³ (CONT'D)

IGK228F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK262F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK249F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK254F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK211F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK213F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK220F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK257F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 2000 MG/M³

IGK186F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGK150F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK162F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK144F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK166F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK168F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK198F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK194F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK195F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK164F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK173F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK181F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK187F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK223F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK233F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 2000 MG/M³ (CONT'D)

IGK237F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK148F - GENERAL CONDITION: Alopecia extremities.
IGK219F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK212F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK259F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK218F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK276F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK234F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK256F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK287F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 10,000 MG/M³

IGK156F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK174F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK147F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGK154F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK146F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK161F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK206F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK163F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK172F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK202F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK157F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK182F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK207F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK250F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK203F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK247F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 10,000 MG/M³ (CONT'D)

IGK177F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK271F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK273F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK221F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK224F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK231F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK232F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK269F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK267F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 20,000 MG/M³

IGK159F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK160F - GENERAL CONDITION: Alopecia extremities and trunk.
NOTE: No evidence of uterine implantation sites.

IGK155F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK165F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK175F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK149F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK153F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK204F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK167F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK214F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK158F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK184F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK216F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK241F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGK245F - ALL TISSUES AND ORGANS: No observable abnormalities.

**APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS BY TARGET DOSE)**

DOSE: 20,000 MG/M³ (CONT'D)

IGK151F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK253F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK266F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK258F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK205F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK243F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK255F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK275F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK227F - ALL TISSUES AND ORGANS: No observable abnormalities.
IGK284F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX F - UTERINE IMPLANTATION DATA
(MEAN UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS FOR STATISTICAL SYMBOLS ON PAGES 5-1 AND 5-2)

	Total <u>Live</u>	Male <u>Fetuses</u>	Female <u>Fetuses</u>	<u>Resorptions</u>	Implantation <u>Sites</u>	Corpora <u>Lutea</u>	Total <u>Dead</u>	Fetuses/ <u>Implantation</u>	Resorptions/ <u>Implantation</u>
FEMALE	A-L-	K-J	A-L-	A-L-	A-L-	A-L-	NT	A-L-	A-L-
0 MG/M ³									
MEAN	14.96	7.54	7.42	0.58	15.50	16.42		0.97	0.04
STD.DEV.	3.07	2.9	2.55	0.83	3.18	3.41		0.05	0.05
(N)	24	24	24	24	24	24	24	24	24
2000 MG/M ³									
MEAN	15.50	7.08	8.42	0.54	16.04	17.04		0.96	0.04
STD.DEV.	2.72	1.67	2.24	0.78	2.35	2.29		0.05	0.05
(N)	24	24	24	24	24	24	24	24	24
10,000 MG/M ³									
MEAN	15.58	7.08	8.5	0.38	15.96	16.46		0.98	0.02
STD.DEV.	2.19	2.65	2.87	0.49	2.07	2.55		0.03	0.03
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M ³									
MEAN	16.25	8.58	7.67	0.42	16.67	17.58		0.98	0.02
STD.DEV.	1.87	1.61	2.28	0.72	1.81	2.6		0.04	0.04
(N)	24	24	24	24	24	24	24	24	24

APPENDIX F - UTERINE IMPLANTATION DATA
(MEAN UTERINE IMPLANTATION DATA BY TARGET DOSE)

(SEE LIST OF ABBREVIATIONS FOR STATISTICAL SYMBOLS ON PAGES 5-1 AND 5-2)

	<u>Dead/ Implantation</u>	<u>F/I Tranformed</u>	<u>R/I Transformed</u>	<u>D/I Transformed</u>	<u>% Preimplant Loss</u>	<u>% Postimplant Loss</u>	<u>Total Malformations</u>	<u>Total Variations</u>	<u>Total Affected</u>
FEMALE	NT	A-L-	A-L-	K-J-	K-J-	A-L-	K-J-	K-J-	A-L-
0 MG/M ³									
MEAN		78.883958	11.402500	7.455	5.1	3.3	0.17	0.7	0.8
STD.DEV.		5.408551	5.349722	1.087	12.6	5.4	0.38	0.8	0.8
(N)	24	24	24	24	24	24	24	24	24
2000 MG/M ³									
MEAN		78.811750	11.188625	7.236	4.9	3.7	0.04	0.5	0.6
STD.DEV.		5.600154	5.600200	0.608	12.7	5.2	0.20	0.8	0.8
(N)	24	24	24	24	24	24	24	24	24
10,000 MG/M ³									
MEAN		79.976417	10.024167	7.240	2.6	2.4	0.04	0.9	0.4
STD.DEV.		3.796673	3.796496	0.524	5.2	3.3	0.20	1.5	0.6
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M ³									
MEAN		80.114000	9.886250	7.067	4.6	2.5	0.21	0.7	0.6
STD.DEV.		4.515679	4.515813	0.403	6.9	4.1	0.51	0.8	0.8
(N)	24	24	24	24	24	24	24	24	24

NOTES:

A- = No statistical difference among the means (parametric test)_

L- = No linear trend in the dose response (parametric test)

K- = No statistical difference among the means (non-parametric test)

J- = No ordered response in the dose response, J = Ordered trend in dose response ($p \leq 0.05$) (non-parametric test)

NT – Not tested

F-2

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 0 MG/M³

<u>ANIMAL</u> <u>NUMBER</u>	<u>Live</u>	<u>Male</u>	<u>Female</u>	<u>Resorp</u>	<u>Implants</u>	<u>CL</u>	<u>Dead</u>	<u>Mal</u>	<u>Var</u>
IGK143F	18	6	12	0	18	19	0	0	1
IGK189F	17	11	6	1	18	19	0	0	0
IGK152F	19	9	10	1	20	20	0	0	0
IGK145F	12	4	8	0	12	12	0	0	1
IGK170F	13	5	8	2	15	15	0	0	0
IGK169F	12	8	4	0	12	12	0	0	0
IGK208F	15	9	6	0	15	15	0	0	1
IGK176F	6	3	3	0	6	13	0	0	0
IGK201F	14	6	8	0	14	14	0	0	2
IGK197F	18	10	8	1	19	18	0	1	0
IGK217F	18	13	5	1	18	27	0	0	0
IGK240F	12	4	8	0	12	12	0	1	0
IGK226F	16	9	7	0	16	17	0	0	1
IGK171F	18	10	8	2	20	20	0	0	2
IGK199F	14	8	6	0	14	14	0	0	1
IGK210F	17	13	4	0	17	18	0	0	1
IGK222F NP									
IGK228F	19	7	12	0	19	20	0	0	1
IGK262F	16	10	6	1	17	17	0	0	0
IGK249F	14	8	6	1	15	15	0	0	2
IGK254F	15	4	11	1	16	16	0	0	0
IGK211F	13	4	9	0	13	14	0	1	0
IGK213F	15	4	11	0	15	15	0	1	0
IGK220F	17	9	8	0	17	17	0	0	2
IGK257F	11	7	4	3	14	15	0	0	1

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 0 MG/M³

ANIMAL NUMBER	F/I <u>Transformed</u>	R/I <u>Transformed</u>	D/I <u>Transformed</u>
IGK143F	83.232	6.768	6.7681
IGK189F	76.367	13.633	6.7681
IGK152F	77.079	12.921	6.4193
IGK145F	81.702	8.299	8.2990
IGK170F	68.584	21.417	7.4176
IGK169F	81.702	8.299	8.2990
IGK208F	82.583	7.418	7.4176
IGK176F	78.222	11.778	11.7783
IGK201F	82.321	7.679	7.6795
IGK197F	76.738	13.263	6.5868
IGK217F	83.232	13.633	6.7681
IGK240F	81.702	8.299	8.2990
IGK226F	82.820	7.181	7.1808
IGK171F	71.565	18.435	6.4193
IGK199F	82.321	7.679	7.6795
IGK210F	83.035	6.965	6.9653
IGK222F NP			
IGK228F	83.414	6.587	6.5868
IGK262F	75.964	14.036	6.9653
IGK249F	75.037	14.963	7.4176
IGK254F	75.523	14.478	7.1808
IGK211F	82.029	7.971	7.9712
IGK213F	82.583	7.418	7.4176
IGK220F	83.035	6.965	6.9653
IGK257F	62.425	27.575	7.6795

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 2000 MG/M³

<u>ANIMAL</u> <u>NUMBER</u>	<u>Live</u>	<u>Male</u>	<u>Female</u>	<u>Resorp</u>	<u>Implants</u>	<u>CL</u>	<u>Dead</u>	<u>Mal</u>	<u>Var</u>
IGK186F NP									
IGK150F	17	7	10	0	17	18	0	0	2
IGK162F	13	7	6	1	14	14	0	1	0
IGK144F	13	8	5	1	14	21	0	0	0
IGK166F	17	9	8	0	17	17	0	0	0
IGK168F	19	5	14	0	19	19	0	0	1
IGK198F	17	6	11	0	17	17	0	0	0
IGK194F	12	6	6	1	13	13	0	0	1
IGK195F	18	8	10	1	19	19	0	0	0
IGK164F	16	6	10	0	16	16	0	0	0
IGK173F	15	7	8	1	16	16	0	0	0
IGK181F	19	11	8	0	19	19	0	0	1
IGK187F	18	8	10	0	18	18	0	0	3
IGK223F	15	8	7	1	16	16	0	0	0
IGK233F	14	6	8	0	14	15	0	0	1
IGK237F	18	9	9	0	18	18	0	0	1
IGK148F	14	8	6	0	14	15	0	0	1
IGK219F	11	6	5	1	12	12	0	0	0
IGK212F	19	9	10	0	19	19	0	0	0
IGK259F	17	8	9	0	17	17	0	0	0
IGK218F	13	7	6	3	16	17	0	0	1
IGK276F	17	6	11	0	17	17	0	0	1
IGK234F	17	7	10	0	17	17	0	0	0
IGK256F	14	5	9	2	16	17	0	0	0
IGK287F	9	3	6	1	10	22	0	0	0

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 2000 MG/M³

ANIMAL NUMBER	F/I <u>Tranformed</u>	R/I <u>Transformed</u>	D/I <u>Transformed</u>
IGK186F NP			
IGK150F	83.035	6.965	6.9653
IGK162F	74.499	15.501	7.6795
IGK144F	74.499	15.501	7.6795
IGK166F	83.035	6.965	6.9653
IGK168F	83.414	6.587	6.5868
IGK198F	83.035	6.965	6.9653
IGK194F	73.898	16.102	7.9712
IGK195F	76.738	13.263	6.5868
IGK164F	82.820	7.181	7.1808
IGK173F	75.523	14.478	7.1808
IGK181F	83.414	6.587	6.5868
IGK187F	83.232	6.768	6.7681
IGK223F	75.523	14.478	7.1808
IGK233F	82.321	7.679	7.6795
IGK237F	83.232	6.768	6.7681
IGK148F	82.321	7.679	7.6795
IGK219F	73.222	16.779	8.2990
IGK212F	83.414	6.587	6.5868
IGK259F	83.035	6.965	6.9653
IGK218F	64.341	25.659	7.1808
IGK276F	83.035	6.965	6.9653
IGK234F	83.035	6.965	6.9653
IGK256F	69.296	20.705	7.1808
IGK287F	71.565	18.435	9.0975

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 10,000 MG/M³

<u>ANIMAL</u> <u>NUMBER</u>	<u>Live</u>	<u>Male</u>	<u>Female</u>	<u>Resorp</u>	<u>Implants</u>	<u>CL</u>	<u>Dead</u>	<u>Mal</u>	<u>Var</u>
IGK156F	15	8	7	0	15	15	0	0	0
IGK174F	13	10	3	0	13	13	0	0	1
IGK147F NP									
IGK154F	16	3	13	0	16	16	0	0	0
IGK146F	11	4	7	0	11	12	0	0	0
IGK161F	15	9	6	1	16	16	0	0	0
IGK206F	11	3	8	1	12	12	0	0	2
IGK163F	17	10	7	0	17	17	0	0	2
IGK172F	15	9	6	1	16	16	0	1	1
IGK202F	14	5	9	1	15	15	0	0	0
IGK157F	15	9	6	0	15	16	0	0	2
IGK182F	16	10	6	1	17	17	0	0	2
IGK207F	17	6	11	0	17	18	0	0	1
IGK250F	19	10	9	0	19	20	0	0	1
IGK203F	17	7	10	0	17	17	0	0	1
IGK247F	19	8	11	0	19	19	0	0	0
IGK177F	16	6	10	0	16	16	0	0	1
IGK271F	16	6	10	0	16	18	0	0	0
IGK273F	16	3	13	0	16	16	0	0	0
IGK221F	12	8	4	1	13	13	0	0	0
IGK224F	16	9	7	0	16	16	0	0	0
IGK231F	16	8	8	1	17	17	0	0	0
IGK232F	19	11	8	0	19	20	0	0	7
IGK269F	17	2	15	1	18	23	0	0	0
IGK267F	16	6	10	1	17	17	0	0	1

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 10,000 MG/M³

ANIMAL <u>NUMBER</u>	F/I <u>Transformed</u>	R/I <u>Transformed</u>	D/I <u>Transformed</u>
IGK156F	82.583	7.418	7.4176
IGK174F	82.029	7.971	7.9712
IGK147F NP			
IGK154F	82.820	7.181	7.1808
IGK146F	81.330	8.671	8.6708
IGK161F	75.523	14.478	7.1808
IGK206F	73.222	16.779	8.2990
IGK163F	83.035	6.965	6.9653
IGK172F	75.523	14.478	7.1808
IGK202F	75.037	14.963	7.4176
IGK157F	82.583	7.418	7.4176
IGK182F	75.964	14.036	6.9653
IGK207F	83.035	6.965	6.9653
IGK250F	83.414	6.587	6.5868
IGK203F	83.035	6.965	6.9653
IGK247F	83.414	6.587	6.5868
IGK177F	82.820	7.181	7.1808
IGK271F	82.820	7.181	7.1808
IGK273F	82.820	7.181	7.1808
IGK221F	73.898	16.102	7.9712
IGK224F	82.820	7.181	7.1808
IGK231F	75.964	14.036	6.9653
IGK232F	83.414	6.587	6.5868
IGK269F	76.367	13.633	6.7681
IGK267F	75.964	14.036	6.9653

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 20,000 MG/M³

<u>ANIMAL</u> <u>NUMBER</u>	<u>Live</u>	<u>Male</u>	<u>Female</u>	<u>Resorp</u>	<u>Implants</u>	<u>CL</u>	<u>Dead</u>	<u>Mal</u>	<u>Var</u>
IGK159F	17	10	7	0	17	18	0	0	1
IGK160F NP									
IGK155F	17	6	11	0	17	17	0	0	0
IGK165F	15	11	4	3	18	21	0	0	0
IGK175F	20	9	11	0	20	20	0	0	0
IGK149F	14	8	6	1	15	16	0	0	1
IGK153F	17	9	8	0	17	17	0	0	0
IGK204F	16	7	9	1	17	17	0	0	1
IGK167F	14	10	4	0	14	14	0	0	0
IGK214F	17	7	10	0	17	17	0	0	3
IGK158F	18	12	6	0	18	19	0	0	1
IGK184F	17	11	6	1	18	18	0	0	0
IGK216F	15	8	7	0	15	16	0	0	1
IGK241F	19	9	10	0	19	19	0	0	0
IGK245F	17	8	9	0	17	18	0	1	2
IGK151F	13	9	4	0	13	14	0	0	1
IGK253F	18	9	9	1	19	19	0	1	0
IGK266F	15	6	9	0	15	16	0	0	1
IGK258F	18	6	12	0	18	18	0	1	1
IGK205F	16	8	8	1	17	18	0	0	0
IGK243F	13	7	6	1	14	14	0	0	1
IGK255F	18	9	9	0	18	26	0	2	1
IGK275F	15	9	6	1	16	18	0	0	1
IGK227F	17	10	7	0	17	18	0	0	1
IGK284F	14	8	6	0	14	14	0	0	0

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APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA BY TARGET DOSE)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
DOSE: 20,000 MG/M³

ANIMAL NUMBER	F/I <u>Transformed</u>	R/I <u>Transformed</u>	D/I <u>Transformed</u>
IGK159F	83.035	6.965	6.9653
IGK160F NP			
IGK155F	83.035	6.965	6.9653
IGK165F	65.906	24.095	6.7681
IGK175F	83.581	6.419	6.4193
IGK149F	75.037	14.963	7.4176
IGK153F	83.035	6.965	6.9653
IGK204F	75.964	14.036	6.9653
IGK167F	82.321	7.679	7.6795
IGK214F	83.035	6.965	6.9653
IGK158F	83.232	6.768	6.7681
IGK184F	76.367	13.633	6.7681
IGK216F	82.583	7.418	7.4176
IGK241F	83.414	6.587	6.5868
IGK245F	83.035	6.965	6.9653
IGK151F	82.029	7.971	7.9712
IGK253F	76.738	13.263	6.5868
IGK266F	82.583	7.418	7.4176
IGK258F	83.232	6.768	6.7681
IGK205F	75.964	14.036	6.9653
IGK243F	74.499	15.501	7.6795
IGK255F	83.232	6.768	6.7681
IGK275F	75.523	14.478	7.1808
IGK227F	83.035	6.965	6.9653
IGK284F	82.321	7.679	7.6795

NOTE: NP - ANIMAL NOT PREGNANT

**APPENDIX G - FETAL BODY WEIGHT
(MEAN FETAL BODY WEIGHTS BY TARGET DOSE)
(GRAMS)**

Mean Fetal Weight, and Least Squares Mean Fetal Weight

Dose Group (mg/m ³)	n litters	n fetuses	observed fetus mean (gm)	Least squares fetus mean (gm)
0	24	359	5.63	5.62
2,000	24	372	5.38	5.38**
10,000	24	374	5.33	5.34**
20,000	24	390	5.35	5.36**

** different from control p<0.01

Mean Fetal Weight by Sex

Fetal Weight (grams)				
Male	Target 0 mg/m ³	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	5.75	5.55	5.53	5.48
S.D.	0.35	0.43	0.43	0.38
N (litters)	24	24	24	24
Female	Target 0 mg/m ³	Target 2000 mg/m ³	Target 10,000 mg/m ³	Target 20,000 mg/m ³
Mean	5.50	5.24	5.17	5.19
S.D.	0.34	0.38	0.41	0.40
N (litters)	24	24	24	24

**APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 0 MG/M³**

ANIMAL NUMBER	SEX													Litter Weights
IGK143F	M	5.18	5.12	5.56	5.93	5.68	5.71							98.25
IGK143F	F	5.68	5.03	5.19	5.30	5.16	5.74	5.25	5.88	5.08	5.76	5.51	5.49	
IGK189F	M	5.62	6.03	6.51	5.99	5.55	5.52	5.60	5.23	5.38	5.61	5.52		94.84
IGK189F	F	5.23	5.70	5.28	5.62	5.38	5.07							
IGK152F	M	5.25	5.38	5.36	5.14	5.35	5.43	5.76	5.38	5.71				100.72
IGK152F	F	4.76	5.23	4.80	5.02	5.45	5.31	5.62	4.96	5.45	5.36			
IGK145F	M	6.40	6.11	6.34	6.69									72.13
IGK145F	F	5.89	5.80	5.74	5.88	5.77	5.80	5.78	5.93					
IGK170F	M	5.43	6.47	5.92	5.81	5.77								73.84
IGK170F	F	5.89	5.47	5.86	5.35	5.48	5.66	5.31	5.42					
IGK169F	M	5.71	5.74	6.07	5.63	5.95	5.68	5.75	5.97					68.59
IGK169F	F	5.55	5.48	5.56	5.50									
IGK208F	M	5.47	6.15	5.32	5.54	5.00	5.69	5.92	5.75	5.35				80.61
IGK208F	F	5.05	5.60	4.87	4.95	4.81	5.14							
IGK176F	M	6.38	5.99	6.87										38.54
IGK176F	F	6.69	6.25	6.36										
IGK201F	M	5.80	5.64	6.00	5.99	5.66	5.61							79.97
IGK201F	F	5.78	6.00	5.61	5.65	5.79	5.75	5.42	5.27					
IGK197F	M	5.88	5.88	5.65	5.75	6.12	5.60	5.37	5.36	5.87	6.19			100.88
IGK197F	F	5.55	5.15	5.71	5.41	5.64	5.38	5.23	5.14					
IGK217F	M	5.64	6.07	5.88	5.90	5.76	5.76	5.65	5.63	5.87	5.84	5.92	5.94	103.51
IGK217F	F	5.72	5.28	5.44	5.65	5.86								
IGK240F	M	6.34	6.09	6.31	6.36									71.20
IGK240F	F	5.39	6.04	5.95	5.82	5.76	5.87	5.81	5.46					
IGK226F	M	5.74	5.90	6.15	6.05	5.49	6.51	6.55	6.54	5.97				95.85
IGK226F	F	6.08	5.78	5.81	5.40	6.27	5.71	5.90						

**APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 0 MG/M³**

ANIMAL NUMBER	SEX													Litter Weights
IGK171F	M	5.31	5.52	5.40	5.46	5.53	5.37	5.62	5.22	5.29	5.23			94.62
IGK171F	F	5.11	5.16	4.90	5.20	5.04	4.77	5.25	5.24					
IGK199F	M	5.39	5.60	5.61	5.40	5.42	5.81	5.82	5.51					75.57
IGK199F	F	4.86	5.14	4.97	5.08	5.59	5.37							
IGK210F	M	5.45	5.83	5.83	5.29	5.80	5.46	5.81	5.73	5.77	5.37	5.41	5.64	94.40
IGK210F	F	5.37	5.34	5.44	5.17									
IGK222F	NP													
IGK228F	M	4.89	5.81	5.51	5.49	5.84	6.05	6.08						106.67
IGK228F	F	5.31	5.40	5.76	5.37	5.62	5.97	4.89	5.24	5.96	5.63	5.77	6.08	
IGK262F	M	5.88	6.21	6.01	5.82	5.83	5.76	6.05	6.01	6.20	6.36			93.19
IGK262F	F	4.89	5.37	4.91	5.41	6.08	6.40							
IGK249F	M	6.13	5.97	5.51	5.94	5.38	5.24	6.16	5.90					79.68
IGK249F	F	5.42	5.34	5.44	5.89	5.68	5.68							
IGK254F	M	5.71	5.20	5.59	5.13									79.98
IGK254F	F	5.18	5.31	5.54	5.07	5.53	5.44	5.30	5.30	5.40	5.48	4.80		
IGK211F	M	5.88	5.89	5.97	6.19									73.57
IGK211F	F	5.69	5.33	5.29	5.94	5.76	5.35	5.38	5.49	5.41				
IGK213F	M	6.40	6.04	6.12	5.87									87.33
IGK213F	F	5.90	5.61	5.68	5.72	5.68	5.23	5.59	5.91	5.89	6.03	5.66		
IGK220F	M	5.52	5.14	5.56	5.70	5.69	5.91	5.71	5.50	5.76				93.90
IGK220F	F	5.05	5.34	5.44	5.48	5.48	5.67	5.51	5.44					
IGK257F	M	5.67	5.78	5.99	5.51	5.65	5.50	6.06						62.31
IGK257F	F	5.45	5.48	5.75	5.47									
														Mean 84.17
														S.D. 15.82

**APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 2000 MG/M³**

ANIMAL																Litter Weights
NUMBER	SEX															
IGK186F	NP															
IGK150F	M	5.66	5.27	5.50	4.80	5.44	5.87	5.22							89.84	
IGK150F	F	5.12	5.29	5.34	5.19	5.31	5.55	5.28	5.25	4.88	4.87					
IGK162F	M	5.67	6.02	5.91	5.97	5.90	5.84	5.58							74.80	
IGK162F	F	5.57	5.54	5.60	5.90	5.80	5.50									
IGK144F	M	5.59	5.54	5.58	5.48	5.39	5.19	5.29	5.17						68.43	
IGK144F	F	5.08	5.23	5.38	4.35	5.16										
IGK166F	M	5.55	5.73	6.43	5.22	5.66	5.36	5.61	5.72	5.73					94.17	
IGK166F	F	5.33	5.30	5.41	5.44	5.32	5.54	5.51	5.31							
IGK168F	M	5.86	5.19	5.33	5.37	5.30									98.03	
IGK168F	F	5.12	5.46	5.46	5.22	5.07	5.07	2.95	5.28	5.33	4.98	5.14	5.06	5.35	5.49	
IGK198F	M	5.11	4.38	4.73	5.05	5.16	4.77								80.77	
IGK198F	F	4.65	4.94	4.54	4.79	4.88	4.06	4.87	4.53	4.89	4.37	5.05				
IGK194F	M	5.18	5.38	5.46	5.28	4.62	5.06							59.63		
IGK194F	F	4.38	4.91	5.08	4.82	4.50	4.96									
IGK195F	M	4.63	5.43	5.00	5.45	4.89	4.96	5.16	5.16						91.08	
IGK195F	F	5.39	4.94	4.99	5.09	5.15	5.11	4.99	5.06	4.84	4.84					
IGK164F	M	6.45	5.69	6.18	5.97	5.59	5.74								92.73	
IGK164F	F	5.56	5.72	5.56	5.72	5.79	5.57	6.16	5.45	5.93	5.65					
IGK173F	M	5.87	6.29	5.64	5.25	5.08	5.54	5.48							81.66	
IGK173F	F	5.98	5.47	5.28	5.28	4.82	5.30	5.12	5.26							
IGK181F	M	5.46	5.66	5.75	5.78	5.67	6.00	5.35	5.53	5.51	5.27	5.82				
IGK181F	F	5.37	5.46	5.16	5.17	5.01	5.12	5.27	4.83							
IGK187F	M	5.71	5.79	5.45	5.47	5.15	4.78	5.13	5.51						92.89	
IGK187F	F	4.76	4.82	4.95	5.30	5.02	4.97	4.77	5.14	5.22	4.95					

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 2000 MG/M³

ANIMAL NUMBER	SEX											Litter Weights
IGK223F	M	5.51	5.73	5.64	5.49	5.88	5.44	5.77	5.79			82.49
IGK223F	F	5.38	5.74	5.40	4.91	5.12	5.47	5.22				
IGK233F	M	3.61	5.46	5.43	6.09	5.66	5.68					74.83
IGK233F	F	4.89	5.45	5.44	5.28	5.47	5.42	5.45	5.50			
IGK237F	M	5.25	5.52	5.25	5.23	5.19	5.26	5.45	5.01	4.97		93.38
IGK237F	F	5.42	5.27	5.32	5.12	5.48	5.52	5.12	4.06	4.94		
IGK148F	M	6.11	5.54	5.74	5.40	6.57	5.78	5.62	5.99			79.36
IGK148F	F	5.39	5.54	5.08	5.74	5.67	5.19					
IGK219F	M	5.84	5.99	5.60	6.05	5.85	6.34					63.92
IGK219F	F	5.84	5.61	5.81	5.71	5.28						
IGK212F	M	5.48	5.86	5.47	6.11	6.05	6.51	6.13	5.86	5.43		107.65
IGK212F	F	5.73	5.17	5.54	5.64	5.61	5.33	5.46	5.30	5.53	5.44	
IGK259F	M	5.78	5.64	5.54	5.15	5.81	5.96	5.82	6.20			95.47
IGK259F	F	5.15	5.73	5.64	5.72	5.58	5.48	5.38	5.57	5.32		
IGK218F	M	5.12	5.81	5.56	5.55	6.21	6.19	5.98				71.97
IGK218F	F	4.69	5.21	5.36	5.57	5.22	5.50					
IGK276F	M	5.84	6.20	5.78	5.91	5.84	5.55					94.48
IGK276F	F	5.64	5.16	5.62	5.35	5.84	4.94	5.58	5.26	5.46	5.02	5.49
IGK234F	M	3.88	5.81	5.21	5.80	5.56	5.46	5.71				89.41
IGK234F	F	5.27	4.66	4.82	5.27	5.32	5.37	4.87	5.21	5.39	5.80	
IGK256F	M	5.31	5.44	5.55	5.49	5.42						72.37
IGK256F	F	4.98	4.90	5.12	4.81	5.23	4.51	5.26	5.27	5.08		
IGK287F	M	5.12	5.94	5.72								48.12
IGK287F	F	5.25	5.40	5.08	5.11	5.26	5.24					
												Mean 83.36
												S.D. 14.49

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 10,000 MG/M³

ANIMAL NUMBER	SEX													Litter Weights
IGK156F	M	5.68	5.49	6.01	5.93	5.86	6.05	5.58	6.37					84.31
IGK156F	F	5.43	4.97	5.54	5.13	5.39	5.61	5.27						
IGK174F	M	5.96	6.25	6.15	6.03	6.31	5.99	6.30	6.73	6.64	6.27			80.10
IGK174F	F	5.71	5.81	5.95										
IGF147F	NP													
IGK154F	M	5.96	5.48	5.80										88.48
IGK154F	F	5.36	5.58	5.70	5.77	5.47	5.86	5.22	5.41	5.27	5.58	5.66	5.15	5.21
IGK146F	M	4.82	5.43	5.55	5.91									54.05
IGK146F	F	4.59	4.56	5.48	4.94	5.30	4.18	3.29						
IGK161F	M	5.34	5.60	5.44	5.16	5.57	5.41	5.57	5.55	5.62				80.12
IGK161F	F	5.45	5.30	5.01	5.22	4.88	5.00							
IGK206F	M	4.84	5.49	5.59										56.77
IGK206F	F	5.08	4.82	4.97	5.18	5.46	5.13	5.09	5.12					
IGK163F	M	5.83	5.98	6.02	5.75	5.57	5.05	6.10	6.04	5.95	5.84			96.28
IGK163F	F	5.25	5.58	5.22	5.51	5.52	5.54	5.53						
IGK172F	M	5.21	5.29	5.65	5.32	5.25	5.96	5.21	5.11	4.78				77.78
IGK172F	F	4.68	5.13	4.92	5.16	4.90	5.21							
IGK202F	M	6.13	4.86	6.21	5.91	5.89								80.65
IGK202F	F	5.91	5.64	5.76	5.65	5.39	6.01	5.47	5.87	5.95				
IGK157F	M	5.86	5.82	5.87	5.62	5.41	5.67	5.86	5.80	5.52				84.01
IGK157F	F	5.49	5.50	5.29	5.20	5.54	5.56							
IGK182F	M	5.52	5.82	5.59	5.69	5.01	5.09	5.09	5.39	5.13	5.31			83.98
IGK182F	F	5.34	5.23	5.08	4.80	4.87	5.02							
IGK207F	M	4.58	5.15	5.18	4.56	5.29	4.98							82.36
IGK207F	F	4.59	4.80	4.76	4.84	4.97	4.62	4.54	4.73	5.06	4.88	4.83		
IGK250F	M	5.21	5.31	5.62	5.47	5.12	5.11	4.61	4.74	5.54	5.74			96.34
IGK250F	F	4.62	5.18	5.00	3.73	4.92	5.39	4.98	4.78	5.27				

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 10,000 MG/M³

ANIMAL NUMBER	SEX																				Litter Weights
IGK203F	M	4.63	5.30	5.19	4.82	4.82	5.25	5.23													83.83
IGK203F	F	4.49	5.10	4.79	5.08	5.23	4.93	4.99	4.92	4.68	4.38										
IGK247F	M	4.60	4.61	4.93	5.02	4.84	5.26	5.85	5.06												92.86
IGK247F	F	4.79	4.65	4.65	4.57	4.65	4.98	4.59	4.88	5.17	4.89	4.87									
IGK177F	M	5.68	5.84	6.20	5.26	5.50	5.46														87.28
IGK177F	F	5.29	5.29	5.12	5.42	5.65	5.61	5.17	5.14	5.09	5.56										
IGK271F	M	5.55	5.97	5.59	5.07	5.28	5.38														86.56
IGK271F	F	5.42	5.04	5.85	5.37	5.47	5.32	5.06	5.52	5.57	5.10										
IGK273F	M	5.90	5.87	5.37																	84.95
IGK273F	F	5.12	5.19	5.52	5.37	5.05	5.05	5.60	5.08	5.33	5.31	5.46	4.99	4.74							
IGK221F	M	5.87	5.64	5.59	6.06	5.64	5.86	5.75	5.96												67.95
IGK221F	F	5.44	5.45	5.29	5.40																
IGK224F	M	5.58	5.46	5.33	5.50	5.44	5.40	5.52	5.67	5.69											86.31
IGK224F	F	5.35	4.86	5.14	5.27	5.76	5.13	5.21													
IGK231F	M	4.63	5.46	5.32	5.56	5.48	5.65	5.99	5.85												88.86
IGK231F	F	5.75	5.68	5.51	5.36	5.27	5.38	6.06	5.91												
IGK232F	M	5.49	5.59	5.79	6.07	6.05	5.62	5.87	5.84	5.88	5.96	5.78									106.88
IGK232F	F	5.24	5.47	5.59	5.16	5.06	5.70	5.29	5.43												
IGK269F	M	5.27	5.14																		83.23
IGK269F	F	3.26	4.53	5.17	5.27	5.01	5.05	4.67	4.79	4.77	5.08	5.50	4.92	4.91	5.07	4.82					
IGK267F	M	5.19	5.20	4.61	5.17	5.20	4.87														80.18
IGK267F	F	4.53	5.16	5.06	5.22	5.20	5.26	4.94	5.18	4.70	4.69										
																				Mean	83.09
																				S.D.	11.32

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 20,000 MG/M³

ANIMAL NUMBER SEX													Litter Weights
IGK159F M	5.00	5.26	5.55	5.50	4.97	5.44	5.37	4.75	5.88	5.27			88.82
IGK159F F	5.36	4.92	4.90	5.16	5.30	5.33	4.86						
IGK160F NP													
IGK155F M	5.24	5.19	5.60	5.40	5.35	5.38							87.90
IGK155F F	4.86	5.34	3.83	5.10	5.23	4.48	5.49	5.36	5.16	5.27	5.62		
IGK165F M	5.49	5.78	5.70	5.01	5.64	5.72	5.56	5.76	5.62	5.62	5.82		82.41
IGK165F F	4.98	5.36	5.19	5.16									
IGK175F M	5.40	5.45	5.06	5.47	5.72	5.32	5.41	5.06	5.47				104.07
IGK175F F	4.91	4.96	5.57	5.45	5.21	5.05	4.85	4.54	5.16	5.35	4.66		
IGK149F M	5.73	5.97	5.74	5.48	5.89	5.80	5.80	6.00					79.20
IGK149F F	5.71	5.47	5.43	5.30	5.47	5.41							
IGK153F M	5.32	5.90	5.42	5.19	5.26	4.92	5.19	5.02	5.40				87.96
IGK153F F	4.91	5.03	5.13	4.85	4.97	5.04	5.08	5.33					
IGK204F M	5.18	5.38	5.29	5.22	5.28	5.69	5.30						83.56
IGK204F F	4.77	5.12	5.43	5.27	5.23	4.88	5.27	5.00	5.25				
IGK167F M	5.39	5.55	5.18	5.48	5.66	5.38	5.66	5.44	5.12	5.48			74.41
IGK167F F	5.10	4.83	5.10	5.04									
IGK214F M	5.86	6.11	5.89	6.11	5.95	5.82	6.02						97.70
IGK214F F	5.64	5.83	5.55	5.80	5.66	5.83	5.54	5.27	5.71	5.11			
IGK158F M	5.05	4.95	5.23	5.37	5.15	5.63	5.54	5.49	5.27	5.20	5.34	5.32	93.55
IGK158F F	5.29	5.13	5.02	4.67	4.98	4.92							
IGK184F M	5.25	4.75	5.77	5.60	5.39	5.72	6.11	5.86	5.63	5.52	5.37		92.36
IGK184F F	5.20	5.33	4.82	5.15	5.58	5.31							
IGK216F M	4.84	4.98	5.51	4.99	5.49	5.13	5.20	4.20					72.12
IGK216F F	4.77	4.15	4.43	4.58	4.73	4.70	4.42						

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL FETAL BODY WEIGHT AND LITTER WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 20,000 MG/M³

ANIMAL NUMBER	SEX													Litter Weights	
IGK241F	M	4.78	5.50	5.42	5.52	5.72	5.32	5.52	5.40	5.39				101.53	
IGK241F	F	5.01	5.06	5.10	5.13	5.32	5.29	5.55	5.35	5.49	5.66				
IGK245F	M	6.05	6.15	5.99	6.38	6.29	5.95	6.25	6.12						100.70
IGK245F	F	5.55	5.23	6.01	5.41	5.82	5.88	5.97	6.02	5.63					
IGK151F	M	5.44	5.66	6.23	5.50	5.58	5.83	5.82	5.72	6.03					75.21
IGK151F	F	5.73	6.04	5.87	5.76										
IGK253F	M	4.71	5.37	5.35	5.61	5.14	5.50	5.29	5.18	5.53					93.44
IGK253F	F	4.88	5.24	5.25	5.01	5.20	5.28	4.89	5.16	4.85					
IGK266F	M	5.37	5.51	5.02	5.77	5.26	5.26							74.62	
IGK266F	F	5.23	5.17	4.17	5.00	4.61	4.70	4.61	4.79	4.15					
IGK258F	M	5.65	6.08	5.43	5.22	5.36	5.47							95.16	
IGK258F	F	5.10	5.55	5.60	5.11	5.30	5.22	5.38	4.87	5.15	4.80	5.14	4.73		
IGK205F	M	3.96	5.95	5.45	5.29	5.85	5.78	5.46	5.31						85.78
IGK205F	F	5.51	4.96	5.07	5.50	5.75	5.41	5.17	5.36						
IGK243F	M	4.32	6.02	5.31	5.14	5.51	5.53	5.38							68.83
IGK243F	F	5.13	5.31	4.86	5.44	5.48	5.40								
IGK255F	M	5.37	5.29	5.15	5.05	4.93	5.05	5.12	5.08	4.97					88.16
IGK255F	F	4.37	4.85	4.88	4.68	4.63	4.51	4.73	4.60	4.90					
IGK275F	M	5.64	5.70	6.06	5.91	6.02	5.72	5.51	5.73	5.76					85.34
IGK275F	F	5.62	5.68	5.64	5.27	5.56	5.52								
IGK227F	M	5.10	5.32	5.35	5.24	5.64	5.82	5.44	5.22	5.35	5.12			90.14	
IGK227F	F	5.32	5.08	4.52	5.15	5.52	5.60	5.35							
IGK284F	M	5.71	6.54	6.05	5.76	6.10	5.83	5.76	5.86						82.41
IGK284F	F	5.77	5.68	6.01	5.88	5.71	5.75								
													Mean	86.89	
NOTE: NP- NOT PREGNANT													S.D.	9.60	

NOTE: NP- NOT PREGNANT

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

**APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS BY TARGET DOSE)**

DOSE:	0 MG/M3	2000 MG/M3	10000 MG/M3	20000 MG/M3
TOTAL FETUSES WITH EXTERNAL VARIATIONS	0/359	0/372	0/374	0/390
TOTAL LITTERS WITH EXTERNAL VARIATIONS	[0/24]	[0/24]	[0/24]	[0/24]
TOTAL FETUSES WITH EXTERNAL MALFORMATIONS	1/359	1/372	0/374	0/390
TOTAL LITTERS WITH EXTERNAL MALFORMATIONS	[1/24]	[1/24]	[0/24]	[0/24]
TOTAL FETUSES WITH VISCERAL VARIATIONS	0/178	0/184	1/187	0/199
TOTAL LITTERS WITH VISCERAL VARIATIONS	[0/24]	[0/24]	[1/24]	[0/24]
TOTAL FETUSES WITH VISCERAL MALFORMATIONS	3/178	0/184	1/187	5/199
TOTAL LITTERS WITH VISCERAL MALFORMATIONS	[3/24]	[0/24]	[1/24]	[4/24]
TOTAL FETUSES WITH SKELETAL VARIATIONS	16/181	17/188	21/187	17/191
TOTAL LITTERS WITH SKELETAL VARIATIONS	[12/24]	[16/24]	[11/24]	[14/24]
TOTAL FETUSES WITH SKELETAL MALFORMATIONS	0/181	0/188	0/153	0/191
TOTAL LITTERS WITH SKELETAL MALFORMATIONS	[0/24]	[0/24]	[0/24]	[0/24]

EXTERNAL EXAMINATIONS				
-TOTAL FETUSES EXAMINED:	359	372	374	390
-TOTAL LITTERS EXAMINED:	[24]	[24]	[24]	[24]
INDIVIDUAL EXTERNAL OBSERVATIONS				
STUNTED (<4.0 grams)	0	3	3	2
	[0]	[3]	[3]	[2]
INDIVIDUAL EXTERNAL MALFORMATIONS				
MALROTATED HINDPAW	1	1	0	0
	[1]	[1]	[0]	[0]

NOTE:	[] Represents litter-based data			

WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INCIDENCE OF FETAL OBSERVATIONS BY TARGET DOSE)

DOSE:	0 MG/M3	2000 MG/M3	10000 MG/M3	20000 MG/M3

VISCERAL EXAMINATIONS				
-TOTAL FETUSES EXAMINED:	178	184	187	199
-TOTAL LITTERS EXAMINED:	[24]	[24]	[24]	[24]
INDIVIDUAL VISCERAL VARIATIONS				
UMBILICAL ARTERY ON LEFT SIDE OF	0	0	1	0
URINARY BLADDER	[0]	[0]	[1]	[0]
INDIVIDUAL VISCERAL MALFORMATIONS				
RETINAL FOLD	2	0	0	2
	[2]	[0]	[0]	[2]
HYDROURETER	1	0	1	3
	[1]	[0]	[1]	[2]

NOTE:	[] Represents litter-based data			

WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INCIDENCE OF FETAL OBSERVATIONS BY TARGET DOSE)

DOSE:	0 MG/M3	2000 MG/M3	10000 MG/M3	20000 MG/M3

SKELETAL EXAMINATIONS				
-TOTAL FETUSES EXAMINED:	181	188	187	191
-TOTAL LITTERS EXAMINED:	[24]	[24]	[24]	[24]
INDIVIDUAL OSSIFICATION VARIATIONS				
STERNEBRAE:				
HYPOPLASTIC	0	2	0	0
	[0]	[2]	[0]	[0]
UNOSSIFIED	2	3	3	4
	[2]	[3]	[3]	[2]
RIB(S):				
RUDIMENTARY LUMBAR	10	4	13	6
	[6]	[4]	[5]	[5]
WELL-FORMED LUMBAR	0	1	0	1
	[0]	[1]	[0]	[1]
VERTEBRAE:				
THORACIC CENTRA BIFID	2	4	3	4
	[2]	[3]	[2]	[4]
THORACIC CENTRA DUMBBELL/8-SHAPED	2	1	2	3
	[2]	[1]	[2]	[3]
LUMBAR CENTRA BIFID	0	1	0	0
	[0]	[1]	[0]	[0]
PRESACRAL	0	1	0	0
	[0]	[1]	[0]	[0]
INDIVIDUAL CARTILAGINOUS STRUCTURAL VARIATIONS				
VERTEBRAL ANLAGE:				
THORACIC CENTRA HYPOPLASTIC	0	1	0	0
	[0]	[1]	[0]	[0]

NOTE: [] Represents litter-based data				

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
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APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK143F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11C	A	M	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	F	+			(a)
15	A	F	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	
18	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T1): Dumbbell/8-shaped centra

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APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK189F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
E						
6C	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK152F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12C	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
E						
15	A	F	+			+
16	A	M	+	+	+	
17	A	F	+			+
18	A	F	+	+	+	
19	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK145F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	M	+			+
7C	A	F	+	+	+	
8	A	M	+			(a)
9	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C =CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
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APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK170F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+			+
E						
4	A	M	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7C	A	F	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
E						
13	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
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APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK169F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5C	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK208F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6C	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	M	+			(a)
12	A	F	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK176F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6C	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK201F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7C	A	F	+	+	+	
8	A	F	+			(a)
9	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			(a)
13	A	M	+	+	+	
14	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK197F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	M	+	(A)	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			+
9C E	A	M	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	
18	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - HEAD: Retinal fold; Right eye

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK217F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
E						
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	M	+			+
7C	A	M	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	
18	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK240F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	F	+			+
6C	A	F	+	+	+	
7	A	M	+			+
8	A	F	+	(A)	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - HEAD: Retinal Fold, Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK226F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			(a)
6	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10C	A	F	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+
16	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK171F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10C	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	M	+			(a)
E						
E						
15	A	M	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	
18	A	F	+			(a)

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK199F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10C	A	F	+			(a)
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T12): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK210F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			(a)
8	A	M	+	+	+	
9C	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK228F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			(a)
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	F	+			+
14C	A	F	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	
17	A	M	+			+
18	A	F	+	+	+	
19	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T2): Dumbbell/8-shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK262F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
L						
6	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11C	A	M	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK249F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			(a)
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
EC						
8	A	M	+			(a)
9	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK254F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5C	A	F	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
E						
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
15	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK211F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	M	+	+	(A)	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8C	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - ABDOMEN/THORAX: Hydroureter, Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK213F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6C	A	M	(A)			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - EXTERNAL: Malrotated hindpaw, Left

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK220F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	M	+			(a)
8	A	M	+	+	+	
9	A	F	+			+
10C	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			(a)
16	A	M	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1) - Rudimentary: Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 0 MG/M3
ANIMAL NUMBER: IGK257F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
E						
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	M	+			+
E						
E						
7C	A	M	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			(a)
11	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T11): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK150F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	F	+			(a)
6	A	M	+	+	+	
7C	A	F	+			+
8	A	F	+	+	+	
9	A	M	+			(a)
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: Fetus numbers 11 and 17 found with identification tags detached, numbers arbitrarily assigned for skeletal exams
(a) - SKELETAL/VERTEBRAE (T11): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK162F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7C	A	F	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
E						
11	A	M	+			+
12	A	M	(A)	+	+	
13	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - EXTERNAL: Malrotated hindpaw, Left

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK144F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7C	A	M	+			+
8	A	F	+	+	+	
E						
9	A	M	+			+
10	A	F	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK166F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7	A	M	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	
17	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK168F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9C*	A	F	+			(a,b,c)
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	
17	A	F	+			+
18	A	M	+	+	+	
19	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - STUNTED
(a) - SKELETAL/STERNEBRAE (V): Unossified
(b) - SKELETAL/STERNEBRAE (VI): Hypoplastic
(c) - SKELETAL/VERTEBRAE (T1): Dumbbell shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK198F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK194F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(a)
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
EC						
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T13): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK195F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
L						
3	A	M	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10C	A	M	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	M	+			+
17	A	F	+	+	+	
18	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK164F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7C	A	M	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK173F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4C	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	M	+			+
E						
15	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK181F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7C	A	M	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			(a)
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	M	+	+	+	
16	A	M	+			+
17	A	F	+	+	+	
18	A	M	+			+
19	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK187F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7C	A	F	+	+	+	
8	A	M	+			(a)
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	F	+			(b,c)
15	A	F	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	
18	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: Fetus numbers 4, 6, 8, 12, and 16 found with identification tags detached, numbers arbitrarily assigned for skeletal exams

- (a) - SKELETAL/STERNIBRAE (V): Hypoplastic
- (b) - SKELETAL/VERTEBRAE (T11): Bifid centra
- (c) - SKELETAL/VERTEBRAE (T11 ANLAGE): Hypoplastic

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK223F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8C	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
E						
13	A	F	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK233F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2*	A	M	+			(a,b,c,d)
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8C	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - Stunted
(a) - SKELETAL/RIBS (L1): Rudimentary; Left
(b) - SKELETAL/RIBS (L1): Well formed lumbar rib; Right
(c) - SKELETAL/VERTEBRAE (L3): Bifid centra
(d) - SKELETAL/VERTEBRAE (L): Presacral vertebrae

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK237F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			(a)
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10C	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	M	+			+
17	A	F	+	+	+	
18	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK148F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			(a)
14	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: Fetus numbers 3, 5, 9, 11, and 13 found with identification tags detached, numbers arbitrarily assigned for skeletal exams
(a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK219M

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4C	A	M	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	F	+			+
E						
9	A	M	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK212F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			+
10C	A	F	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	
17	A	F	+			+
18	A	F	+	+	+	
19	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK259F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	M	+			+
9C	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK218F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(a)
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7	A	F	+			+
E						
8	A	F	+	+	+	
9	A	M	+			+
10C	A	F	+	+	+	
11	A	M	+			+
E						
E						
12	A	M	+	+	+	
13	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Right

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK276F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9C	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	F	+			(a)
16	A	F	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK234F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2*	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9	A	M	+			+
10C	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: Fetus numbers 4 and 14 found with identification tags detached, numbers
arbitrarily assigned for skeletal exams
(*) - Stunted

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK256F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10C	A	F	+	+	+	
11	A	M	+			+
E						
12	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
E						

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGK287F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
E						
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7C	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK156F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	F	+			+
10C	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK174F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T12): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK154F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4C	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK146F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6C	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11*	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (*) - Stunted

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK161F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	M	+			+
7C	A	F	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
E						
14	A	F	+			+
15	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: Fetus numbers 2 and 14 found with identification tags detached, numbers arbitrarily assigned for skeletal exams

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK206F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	F	+	+	+	
3	A	F	+			(b)
4	A	M	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7C	A	F	+			+
8	A	M	+	+	+	
E						
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Right
(b) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK163F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			(a)
5	A	M	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	M	+			(a)
9C	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK172F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(b)
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
E						
7	A	M	+			+
8	A	M	+	+	+	
9C	A	F	+			+
10	A	M	+	+	(A)	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - ABDOMEN/THORAX: Hydroureter; Left
(b) - SKELETAL/VERTEBRAE (T9): Dumbbell/8-shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK202F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			+
E						
8C	A	F	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK157F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			(a)
5	A	M	+	+	+	
6C	A	M	+			(a)
7	A	M	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK182F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
E						
1	A	M	+			(a)
2	A	F	+	+	+	
3	A	M	+			+
4C	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	M	+			(b)
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T10): Bifid centra
(b) - SKELETAL/VERTEBRAE (T11): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK207F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 1 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9C	A	M	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	(a)	
14	A	M	+			+
15	A	F	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - ABDOMEN/THORAX: Umbilical artery arises from the left side of urinary bladder.

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK250F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11C*	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	F	+			(a)
16	A	F	+	+	+	
17	A	M	+			+
18	A	F	+	+	+	
19	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - Stunted
 (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK203F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10C	A	F	+			(a)
11	A	F	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Right

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK247F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14C	A	F	+			+
15	A	M	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	
18	A	M	+			+
19	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK177F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8C	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			(a)
13	A	F	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T2): Dumbbell/8-shaped

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK271F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6C	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK273F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8C	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK221F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
E						
4	A	M	+			+
5C	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK224F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10C	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK231F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12C	A	M	+			+
13	A	F	+	+	+	
14	A	M	+			+
E						
15	A	M	+	+	+	
16	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK232F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 7 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	M	+	+	+	
3	A	F	+			(a)
4	A	F	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			(a)
8	A	M	+	+	+	
9C	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			(a)
12	A	F	+	+	+	
13	A	M	+			(a)
14	A	M	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	
17	A	M	+			(b)
18	A	F	+	+	+	
19	A	F	+			(c)

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(b) - SKELETAL/RIBS (L1): Rudimentary; Left
(c) - SKELETAL/RIBS (L1): Rudimentary; Right

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK269F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1*	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
E						
7	A	F	+	+	+	
8	A	F	+			+
9C	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - Stunted

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGK267F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	M	+			+
9C	A	F	+	+	+	
10	A	F	+			(a)
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	F	+			+
E						
15	A	F	+	+	+	
16	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK159F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			(a)
9	A	F	+	+	+	
10C	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK155F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5*	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			+
11C	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - Stunted

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK165F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
E						
6	A	M	+			+
7	A	M	+	+	+	
8	A	M	+			+
EC						
9	A	M	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
E						
13	A	M	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK175F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10C	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	
18	A	F	+			+
19	A	M	+	+	+	
20	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK149F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			(a)
9	A	F	+	+	+	
10	A	F	+			+
11C	A	F	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
E						

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T4): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK153F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	M	+			+
9C	A	M	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	F	+			+
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK204F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
E						
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			(a)
4	A	F	+	+	+	
5	A	F	+			+
6C	A	F	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+
16	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK167F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6C	A	M	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK214F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 3 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7C	A	F	+			(a)
8	A	F	+	+	+	
9	A	F	+			(a)
10	A	F	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	M	+	+	+	
17	A	F	+			(a)

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/STERNEBRAE (V): Unossified

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK158F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	F	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			+
8C	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	
17	A	F	+			+
18	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T12): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK184F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11C	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
E						
14	A	M	+	+	+	
15	A	M	+			+
16	A	M	+	+	+	
17	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK216F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			(a,b)
4	A	F	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7C	A	M	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
15	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary; Right
(b) - SKELETAL/RIBS (L1): Well formed lumbar rib; Left

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK241F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10C	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	F	+			+
15	A	M	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	
18	A	F	+			+
19	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK245F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 2 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	(A)	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			(b)
11C	A	M	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	F	+	+	+	
16	A	M	+			(c)
17	A	F	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - HEAD: Retinal Fold; Right
(b) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(c) - SKELETAL/RIBS (L1): Rudimentary, Right

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK151F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			(a)
5	A	M	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	M	+			+
9C	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	

= ALIVE M = MALE E = EARLY RESORPTION C =CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T12): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK253F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+	+	+	
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
E						
10C	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			+
13	A	M	+	+	(A)	
14	A	F	+			+
15	A	M	+	+	+	
16	A	M	+			+
17	A	M	+	+	+	
18	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - ABDOMEN/THORAX: Hydroureter; Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK266F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	F	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Left

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK258F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	(A)	+	
3	A	F	+			+
4	A	F	+	+	+	
5C	A	F	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			(b)
12	A	F	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	
17	A	F	+			+
18	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - HEAD: Retinal Fold; Right
(b) - SKELETAL/VERTEBRAE (T9): Dumbbell/8-shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK205F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1*	A	M	+		+	
2	A	M	+	+		+
3	A	F	+		+	
4	A	M	+	+		+
E						
5	A	F	+		+	
6	A	F	+	+		+
7C	A	M	+		+	
8	A	M	+	+		+
9	A	F	+		+	
10	A	M	+	+		+
11	A	F	+		+	
12	A	F	+	+		+
13	A	M	+		+	
14	A	F	+	+		+
15	A	M	+		+	
16	A	F	+	+		+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: * - Stunted

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK243F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			(a)
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
E						
8	A	F	+			+
9C	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T9): Dumbbell/8-shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK255F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 2
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	(A)	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9C	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	(B)	
14	A	F	+			(c)
15	A	M	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	
18	A	M	+			+

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (A) - THORAX/ABDOMEN: Hydroureter; Left
(B) - THORAX/ABDOMEN: Hydroureter; Bilateral
(c) - SKELETAL/VERTEBRAE (T11): Bifid centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK275F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7C	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	M	+			(a)
11	A	F	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
E						

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/VERTEBRAE (T9): Dumbbell/8-shaped centra

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK227F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 1 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			(a)
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10C	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	M	+	+	+	
16	A	F	+			+
17	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (a) - SKELETAL/RIBS (L1): Rudimentary: Bilateral

**WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS
WITH BASELINE GASOLINE VAPOR CONDENSATE MRD-00-695: 169534**

APPENDIX H - FETAL OBSERVATIONS (CONT'D)
(INDIVIDUAL FETAL OBSERVATIONS)
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS AND ON PAGE 5-2)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGK284F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 0 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	F	+	+	(*)	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	

A = ALIVE M = MALE E = EARLY RESORPTION C = CERVIX
D = DEAD F = FEMALE L = LATE RESORPTION + = NO OBSERVABLE ABNORMALITIES

NOTE: (*) - Not Recorded due to oversight

APPENDIX I - INHALATION EXPOSURE DATA

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APPENDIX I - INHALATION EXPOSURE DATA

Exposure Chambers

The chambers used in this study were constructed of stainless steel and glass or plastic and had a total volume of approximately 1.0 m³. They were operated at an airflow rate of 200 liters per minute ensuring 12 air changes per hour and a theoretical equilibration time (T₉₉) of 23 minutes. The chamber volume and airflow were considered adequate to ensure an oxygen level greater than 19% and an animal loading below 5%. The chamber airflow rate was monitored continuously with a calibrated flow-limiting orifice and differential pressure gauge and recorded approximately every 30 minutes. All of the chambers were maintained at a slight negative pressure to the room. The pressure was monitored continuously and recorded approximately every 30 minutes.

Test Atmosphere Generation

Figure I-1 presents a schematic of the test atmosphere generation and exposure system.

Aliquots of the test substance for use in the daily conduct of the study were received in gas cylinders (~20 L nominal volume) via a specially constructed distribution manifold. A manifold system maintained the test substance under nitrogen pressure, ensuring that the transferred substance remained in liquid phase and retained the same composition as the original container.

The test substance was delivered via a diptube from the outlet valve of the cylinder to a variable area rotameter which regulated the rate of liquid flow into a heated glass round-bottom flask. The test substance volatilized within the flask and the resulting vapors mixed with the supply air as they were drawn into the exposure chamber.

Chamber Environmental Conditions

Chamber temperature and humidity were monitored by wet/dry bulb hygrometers and recorded at approximately thirty minute intervals throughout each exposure.

APPENDIX I - INHALATION EXPOSURE DATA

Analytical Procedures

Schematic of the analytical calibration system: Figure I-2.

Analytical calibration response curve: Figure I-3

Mean exposure data: Table I-1

Gas chromatograph operating conditions: Table I-2

Summary of exposure data: Table I-3

Exposure concentrations were determined on both a nominal and analytical basis. Nominal concentrations for each exposure level were calculated by weighing the tank containing the test substance before and after exposure and dividing the net loss in weight by the total volume of air passing through the chamber during the exposure.

Analytical exposure concentrations were determined hourly during each exposure by on-line gas chromatography (Hewlett Packard 6890). Samples of the chamber atmosphere were continuously delivered to the GC via 1/8" teflon tubing connected to an automated 12-port multiposition gas sampling valve. The multiposition valve was programmed to sequentially direct each stream to a sample loop which injected a fixed sample volume (2 cc) directly onto the column for analysis. A complete sampling cycle was performed during each hour of exposure.

The analytical system was calibrated against a series of known concentrations of the test substance in air. The air concentrations were determined by injecting a weighed amount of the test substance from a gas-tight syringe into a closed loop system of a known air volume (see schematic drawing). The closed loop system consisted of an infrared vapor analyzer (MIRAN 1A-CVF, Foxboro Analytical) connected to the gas sampling valve of the GC. A metal bellows pump was used to circulate the injected test substance vapors through the sample cell of the infrared monitor and the gas sampling valve of the GC. The response of the infrared analyzer was monitored until the air concentration appeared equilibrated and stable, then three replicate samples were taken using the gas sample loop of the GC. The entire closed loop system was cleared with clean air between each calibration injection. The average response of the GC (total peak area) for the four main constituents of the atmosphere, at each air concentration was used to construct a linear calibration for the test substance.

This method permitted the GC and the infrared analyzer (a backup analytical method) to be calibrated simultaneously and under conditions similar to actual chamber sampling. Once established, the calibration was checked daily during the study by sampling a certified standard of n-butane, the major component of the test substance mixture.

APPENDIX I - INHALATION EXPOSURE DATA

Chamber Homogeneity

Table I-4 presents a summary of the chamber distribution data.

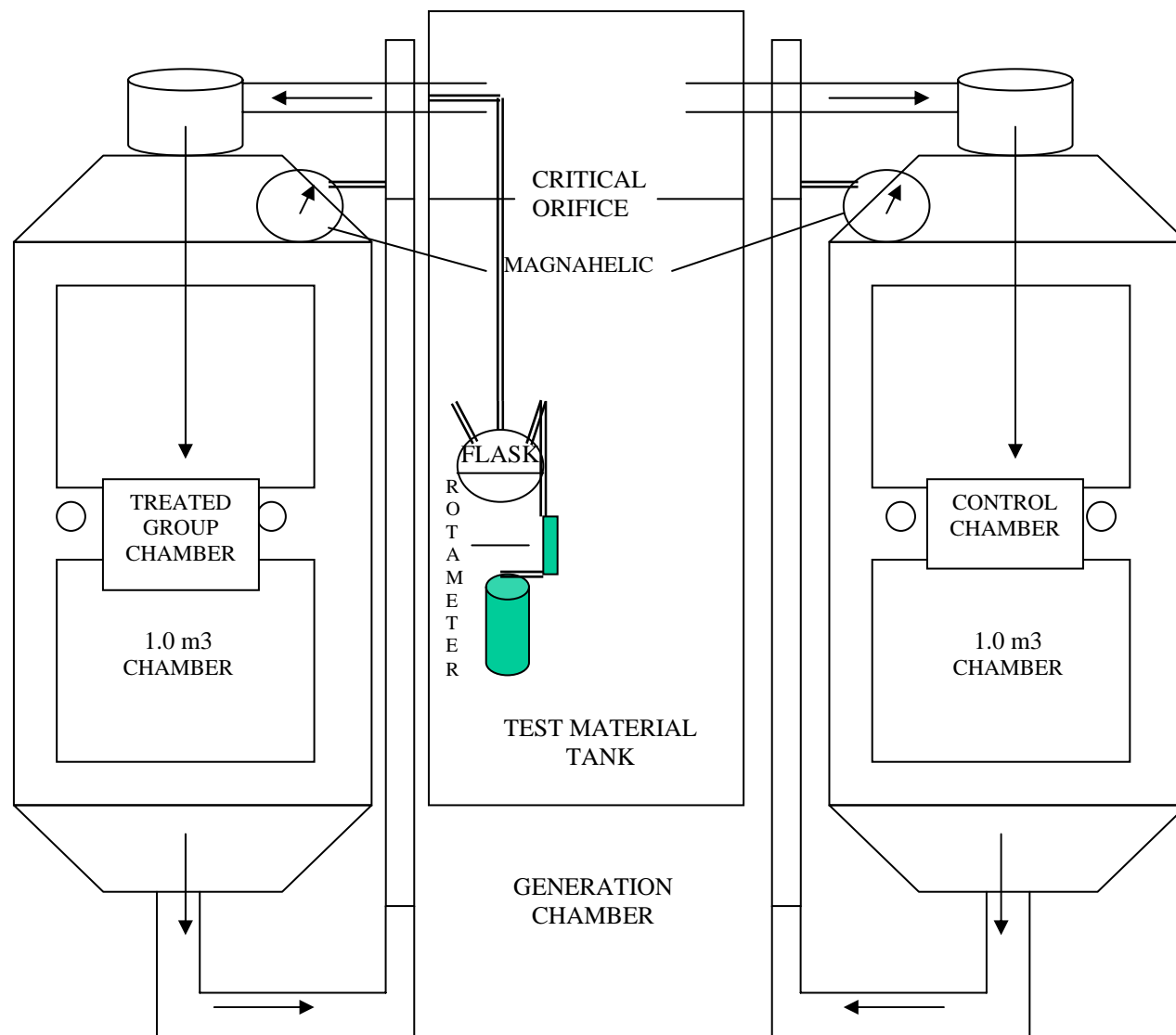
During the method development trials for this study, samples were drawn from twelve different points within the chamber at each target concentration to demonstrate the homogeneity of test atmosphere distribution.

Dosing Error

After the exposure was initiated on 21 May 2001, it was discovered that one Group 4 animal was left out of the chamber. At 0900 the exposure was stopped for 5 minutes and animal number IGK175 was placed in the chamber and the generation system was restarted. The initial exposure period (0800-1400) was extended to 1405, when the exposure was stopped and the chambers were allowed to clear until 1435. At this time all of the animals except IGK175 were removed from the chambers and returned to the animal room. The generation for Group 4 was then restarted and IGK175 was exposed for an additional hour. After half an hour of clearing time IGK175 was removed from the chamber and taken back to the animal room. The nominal and mean analytical concentrations reported for Group 4 for this day were based on the entire exposure interval.

APPENDIX I - INHALATION EXPOSURE DATA

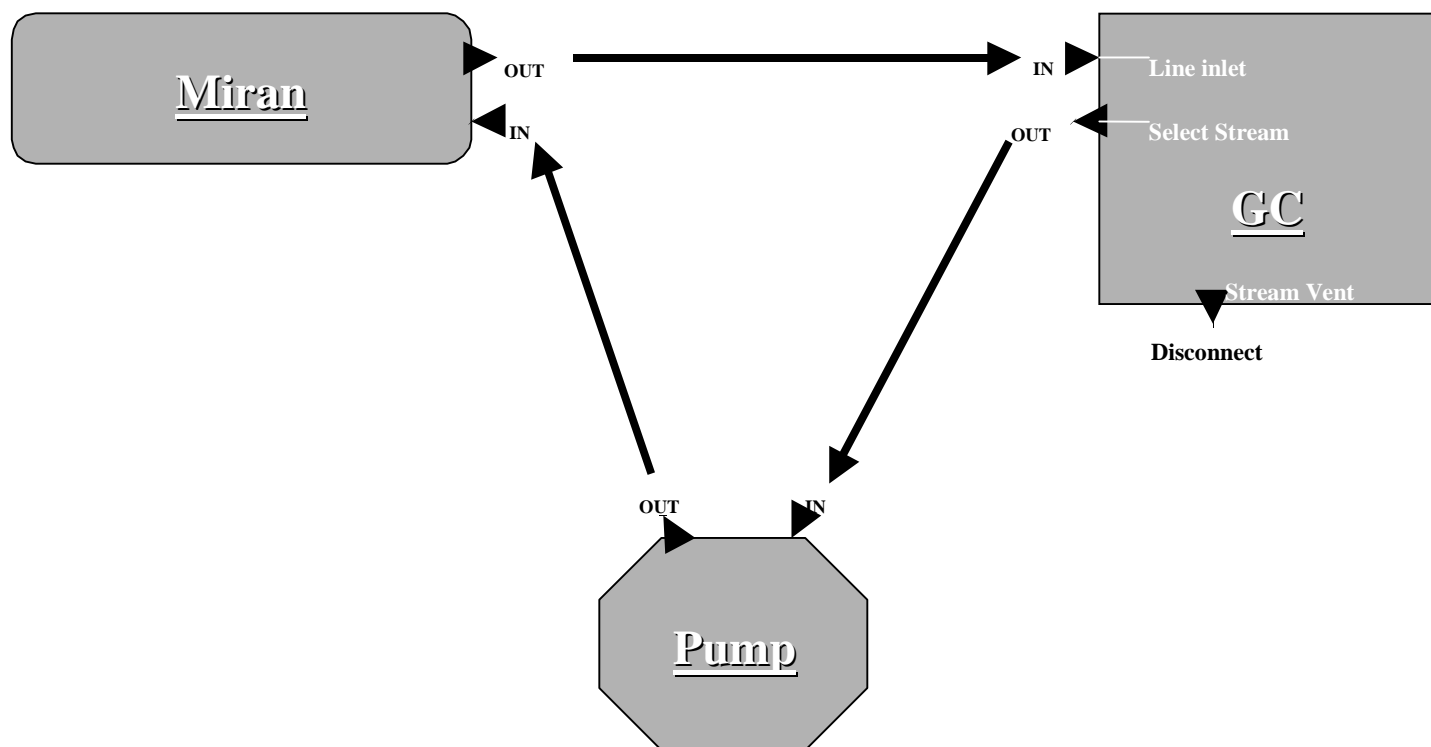
FIGURE I-1 - SCHEMATIC OF GENERATION AND EXPOSURE SYSTEM



I-5

APPENDIX I - INHALATION EXPOSURE DATA

FIGURE I-2 - SCHEMATIC OF THE ANALYTICAL CALIBRATION SYSTEM



APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-1 - MEAN EXPOSURE DATA

GROUP:	1	2	3	4
Target Exposure Concentration (mg/m ³)	0	2000	10000	20000
Mean Analytical Exposure Concentration (mg/m ³)	0	1979	10676	20638
Average Chamber Temperature (°F)	65	69	71	67
Average Chamber Relative Humidity (% RH)	73	66	65	69

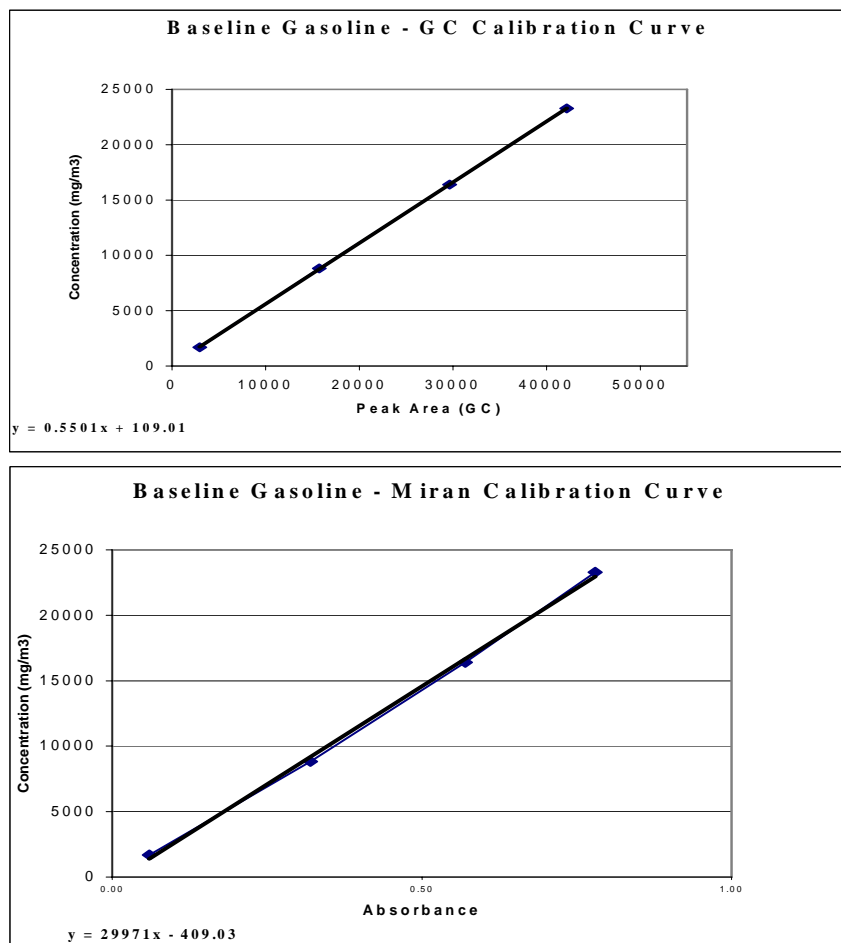
APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-2 - GAS CHROMATOGRAPH OPERATING CONDITIONS

GAS CHROMATOGRAPH:	Hewlett Packard 6890GC
DETECTOR:	Flame Ionization
COLUMN:	Supelco Part # 13867, MTO-SS, 2M 1/8", Carbopack C 80/100 0.19% Picric Acid 15g
GAS FLOWS (cc/min):	H ₂ - 45.0 Air - 450.0 Makeup Gas (Helium) - 30.0
INLET TEMPERATURE:	100°C
INLET FLOW (cc/min)	Helium - 19.8
OVEN TEMPERATURE:	110°C
DETECTOR TEMPERATURE:	250°C
SAMPLE LOOP SIZE:	2 cc
ATTENUATION:	0
RUN TIME:	8.5 Minutes

APPENDIX I - INHALATION EXPOSURE DATA

FIGURE I-3 - ANALYTICAL CALIBRATION RESONSE CURVE



APPENDIX I - SUMMARY OF EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA

Date	Group 1				Group 2				Group 3				Group 4			
	Mean	Nominal	Chamber		Mean	Nominal	Chamber		Mean	Nominal	Chamber		Mean	Nominal	Chamber	
	(mg/m ³)	(mg/m ³)	°F	% Rh	(mg/m ³)	(mg/m ³)	°F	% Rh	(mg/m ³)	(mg/m ³)	°F	% Rh	(mg/m ³)	(mg/m ³)	°F	% Rh
19-May-01	0	0	65	74	1846	2026	68	69	10606	10771	70	62	20581	19529	65	73
20-May-01	0	0	62	79	2123	1838	64	71	10401	10664	64	68	20426	19707	64	68
21-May-01	0	0	64	73	1879	1825	69	66	10559	10511	72	66	20708	19573	67	66
22-May-01 ¹	0	0	64	78	1849	1890	69	69	10973	10690	72	65	21049	19354	66	71
23-May-01	0	0	65	77	1837	1892	68	70	10727	10679	71	65	21134	19449	66	70
24-May-01	0	0	65	75	1904	1600	69	68	10731	10550	71	67	21212	19094	66	72
25-May-01	0	0	65	76	1953	1846	68	69	10489	10453	69	72	20713	18728	64	75
26-May-01	0	0	65	74	1912	1729	69	66	10276	10411	72	66	20912	19271	67	69
27-May-01	0	0	66	72	1860	1643	69	66	11003	10411	72	66	21223	18921	68	68
28-May-01	0	0	67	69	2019	2104	70	70	10343	10376	72	66	19986	18708	67	76
29-May-01	0	0	68	73	1947	1814	70	68	10956	10624	73	66	21014	18944	68	69
30-May-01	0	0	67	60	1920	1928	70	57	10509	10564	72	56	20289	18704	69	59
31-May-01	0	0	67	66	1951	2019	71	60	10550	10021	73	60	20823	18729	69	63
1-Jun-01	0	0	68	64	2193	1908	70	58	10541	10338	72	56	20749	18338	69	59
02-Jun-01 ²	0	0	70	74	1839	2115	72	71	11030	10789	75	68	19672	18633	71	69
03-Jun-01 ²	0	0	67	74	1989	1901	71	65	11380	10615	72	67	20321	18846	69	65
04-Jun-01 ²	0	0	68	73	1939	2065	71	65	10830	10431	73	64	20021	18581	69	67
5-Jun-01	0	0	66	72	1979	1783	70	65	10600	10456	71	65	21194	18918	67	66
6-Jun-01	0	0	66	73	2028	1872	69	65	10524	10444	71	62	20486	18099	66	72
7-Jun-01	0	0	63	84	2095	1971	67	68	10123	10075	69	70	20048	18468	65	77
8-Jun-01	0	0	65	67	1967	1839	68	63	10721	10478	70	63	20614	18349	66	63
9-Jun-01	0	0	64	70	2067	2043	67	63	10565	10575	69	64	20956	18511	65	64
10-Jun-01	0	0	64	70	2055	1860	67	63	10637	10211	69	61	20707	18231	65	67
11-Jun-01	0	0	64	71	2060	1960	67	66	10420	10228	70	65	21114	18114	65	72
12-Jun-01	0	0	64	82	2114	1914	67	69	10773	10481	69	72	19786	17686	66	81
13-Jun-01	0	0	63	71	2049	1858	67	67	10500	10196	70	61	20437	17942	64	70
14-Jun-01	0	0	61	82	2058	1967	66	71	11484	10575	68	69	21045	17788	63	72
MEAN	0	0	65	73	1979	1897	69	66	10676	10467	71	65	20638	18712	67	69
s.d.	0.0	0.0	2.0	5.4	98.0	125.0	1.8	3.8	309.8	196.1	2.1	4.0	452.1	548.8	2.0	5.2

¹ - Means include Miran data for first two hour's sampling

² - Miran used for concentration determinations for entire exposure

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 1 - 0 MG/M³

Date	Exposure Number	Nominal Concentration (mg/m ³)	Mean Analytical Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
19-May-01	1	0	0	65	74
20-May-01	2	0	0	62	79
21-May-01	3	0	0	64	73
22-May-01	4	0	0	64	78
23-May-01	5	0	0	65	77
24-May-01	6	0	0	65	75
25-May-01	7	0	0	65	76
26-May-01	8	0	0	65	74
27-May-01	9	0	0	66	72
28-May-01	10	0	0	67	69
29-May-01	11	0	0	68	73
30-May-01	12	0	0	67	60
31-May-01	13	0	0	67	66
01-Jun-01	14	0	0	68	64
02-Jun-01	15	0	0	70	74

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 1 - 0 MG/M³

Date	Exposure Number	Nominal Concentration (mg/m ³)	Mean Analytical Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
03-Jun-01	16	0	0	67	74
04-Jun-01	17	0	0	68	73
05-Jun-01	18	0	0	66	72
06-Jun-01	19	0	0	66	73
07-Jun-01	20	0	0	63	84
08-Jun-01	21	0	0	65	67
09-Jun-01	22	0	0	64	70
10-Jun-01	23	0	0	64	70
11-Jun-01	24	0	0	64	71
12-Jun-01	25	0	0	64	82
13-Jun-01	26	0	0	63	71
14-Jun-01	27	0	0	61	82
Mean		0	0	65	73
Std. Dev.		0	0	2.0	5.4

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 2 - 2000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentrations (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
19-May-01	1	2026	1852	1808	1854	1832	1986	1746	1846	68	69
20-May-01	2	1838	2002	2360	2086	1988	1896	2407	2123	64	71
21-May-01	3	1825	1833	1829	1798	2092	1878	1843	1879	69	66
22-May-01	4	1890	1689*	1689*	2182	1816	2156	1559	1849	69	69
23-May-01	5	1892	1289	2008	1879	1939	1914	1994	1837	68	70
24-May-01	6	1600	2432	1760	1879	1723	1966	1664	1904	69	68
25-May-01	7	1846	2105	1936	2119	1781	1912	1867	1953	68	69
26-May-01	8	1729	1881	1582	2000	2229	1892	1890	1912	69	66
27-May-01	9	1643	1878	1881	1825	1806	2011	1762	1860	69	66
28-May-01	10	2104	1890	1850	2015	2027	2193	2136	2019	70	70
29-May-01	11	1814	2046	1611	1994	1999	2096	1937	1947	70	68
30-May-01	12	1928	1933	1786	1973	1920	2014	1895	1920	70	57
31-May-01	13	2019	1035	2176	2172	2187	2115	2021	1951	71	60
01-Jun-01	14	1908	2239	2221	2134	2495	1817	2252	2193	70	58
02-Jun-01	15	2115	1090*	1989*	1989*	1989*	1989*	1989*	1839	72	71

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 2 - 2000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentrations (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
03-Jun-01	16	1901	1989*	1989*	1989*	1989*	1989*	1989*	1989	71	65
04-Jun-01	17	2065	1989*	1389*	1989*	2288*	1689*	2288*	1939	71	65
05-Jun-01	18	1783	2022	2201	2146	2162	1999	1347	1979	70	65
06-Jun-01	19	1872	2024	2118	2165	1988	1927	1944	2028	69	65
07-Jun-01	20	1971	2182	1880	2140	1664	2309	2398	2095	67	68
08-Jun-01	21	1839	2106	2096	2059	2115	1669	1758	1967	68	63
09-Jun-01	22	2043	2331	1897	1985	2017	2234	1939	2067	67	63
10-Jun-01	23	1860	1970	2078	2086	2039	2082	2072	2055	67	63
11-Jun-01	24	1960	2156	2060	2105	1753	2162	2123	2060	67	66
12-Jun-01	25	1914	2213	2139	2040	1977	2196	2116	2114	67	69
13-Jun-01	26	1858	1921	1875	2007	2163	2097	2232	2049	67	67
14-Jun-01	27	1967	1800	2129	2098	2145	2102	2074	2058	66	71
MEAN		1897							1979	69	66
Std. Dev.		125.0							98.0	1.8	3.8

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 3 - 10000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentration (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
19-May-01	1	10771	9978	10320	10627	11035	10583	11095	10606	70	62
20-May-01	2	10664	10915	10735	9546	10796	10092	10321	10401	64	68
21-May-01	3	10511	10740	10496	10408	10772	10416	10521	10559	72	66
22-May-01	4	10690	11579*	11280*	10570	10835	10538	11034	10973	72	65
23-May-01	5	10679	10774	10679	10902	10694	10613	10700	10727	71	65
24-May-01	6	10550	10858	10567	10713	10663	10474	11111	10731	71	67
25-May-01	7	10453	10575	10651	10412	10505	10504	10290	10489	69	72
26-May-01	8	10411	10831	10489	8882	10098	10750	10607	10276	72	66
27-May-01	9	10411	11195	11063	11030	10938	10953	10839	11003	72	66
28-May-01	10	10376	10546	10322	10096	10487	10452	10157	10343	72	66
29-May-01	11	10624	10889	11011	10662	11443	10945	10787	10956	73	66
30-May-01	12	10564	10995	10776	10462	10567	10266	9989	10509	72	56
31-May-01	13	10021	11450	10582	10430	10213	9996	10629	10550	73	60
01-Jun-01	14	10338	10848	10456	10944	10427	10296	10275	10541	72	56
02-Jun-01	15	10789	10980*	12179*	10680*	10381*	10980*	10980*	11030	75	68

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I -3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 3 - 10000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentration (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
03-Jun-01	16	10615	10980*	11579*	11280*	11579*	11280*	11579*	11380	72	67
04-Jun-01	17	10431	11280*	10680*	10680*	10980*	10680*	10680*	10830	73	64
05-Jun-01	18	10456	10566	10332	10467	11308	10489	10437	10600	71	65
06-Jun-01	19	10444	10305	10803	10622	10534	10444	10435	10524	71	62
07-Jun-01	20	10075	9855	10097	10275	10054	10303	10153	10123	69	70
08-Jun-01	21	10478	10309	10502	10854	10976	10772	10910	10721	70	63
09-Jun-01	22	10575	10295	10281	10510	10267	11171	10864	10565	69	64
10-Jun-01	23	10211	10690	10771	10469	10175	11001	10719	10637	69	61
11-Jun-01	24	10228	10475	9865	10505	10315	10446	10911	10420	70	65
12-Jun-01	25	10481	10964	10791	10395	10682	11017	10790	10773	69	72
13-Jun-01	26	10196	10721	10616	10674	10474	10317	10197	10500	70	61
14-Jun-01	27	10575	10980	11514	11746	11333	11789	11543	11484	68	69
MEAN		10467							10676	71	65
Std. Dev.		196.1							309.8	2.1	4.0

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 4 - 20000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentration (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
19-May-01	1	19529	19804	20048	20477	21064	20252	21843	20581	65	73
20-May-01	2	19707	20580	20805	19925	20509	20470	20267	20426	64	68
21-May-01	3	19573	20447	20797	20780	20907	20567	20749 ^a	20714	67	67
22-May-01	4	19354	21470*	21170*	21107	20995	20724	20828	21049	66	71
23-May-01	5	19449	21060	21064	21058	21211	21165	21249	21134	66	70
24-May-01	6	19094	20987	21019	21559	20271	21772	21664	21212	66	72
25-May-01	7	18728	21217	20917	21063	20677	20598	19806	20713	64	75
26-May-01	8	19271	20501	20529	20930	21240	21077	21195	20912	67	69
27-May-01	9	18921	21235	21334	20856	20621	21940	21349	21223	68	68
28-May-01	10	18708	19875	19611	19939	20379	20173	19939	19986	67	76
29-May-01	11	18944	21053	20971	20403	21507	21196	20955	21014	68	69
30-May-01	12	18704	20813	20332	19875	21060	20113	19543	20289	69	59
31-May-01	13	18729	21376	21233	21099	20592	20514	20122	20823	69	63
01-Jun-01	14	18338	20662	20610	21180	20858	20640	20545	20749	69	59
02-Jun-01	15	18633	19672*	18772*	19672*	20271*	19971*	19672*	19672	71	69

* - Backup analytical system used

^a - "Extra" 6 hour value = 20755 mg/m³ (see page I-4)

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 (CONT'D) - SUMMARY OF EXPOSURE DATA

GROUP 4 - 20000 MG/M³ TARGET

Date	Exposure Number	Nominal Conc. (mg/m ³)	Hourly Analytical Concentration (mg/m ³)						Mean Concentration (mg/m ³)	Mean Temperature (°F)	Mean Relative Humidity (%)
			1	2	3	4	5	6			
03-Jun-01	16	18846	20271*	20271*	19672*	20571*	20571*	20571*	20321	69	65
04-Jun-01	17	18581	19971*	20571*	19672*	19672*	19971*	20271*	20021	69	67
05-Jun-01	18	18918	21146	21414	21011	21355	21070	21172	21194	67	66
06-Jun-01	19	18099	20684	20436	20516	20356	20531	20394	20486	66	72
07-Jun-01	20	18468	19326	19863	20262	20022	20654	20165	20048	65	77
08-Jun-01	21	18349	21053	20519	20291	20546	20151	21125	20614	66	63
09-Jun-01	22	18511	20385	20760	21065	20701	21217	21612	20956	65	64
10-Jun-01	23	18231	19917	20416	20760	21185	21075	20889	20707	65	67
11-Jun-01	24	18114	20901	20858	20829	21080	21464	21550	21114	65	72
12-Jun-01	25	17686	19799	20165	19692	19716	19783	19562	19786	66	81
13-Jun-01	26	17942	20812	20893	20696	20339	20076	19807	20437	64	70
14-Jun-01	27	17788	20959	20509	21117	20861	21197	21625	21045	63	72
MEAN		18712							20638	67	69
Std. Dev.		548.8							452.1	2.0	5.2

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-4 - UNIFORMITY RESULTS

Sample	Target Exposure Level		
Location	TARGET 2000 mg/m ³	TARGET 10000 mg/m ³	TARGET 20000 mg/m ³
top left front	1953	10443	19862
top left back	2009	10595	19969
top right front	1927	10611	20211
top right back	2068	10286	20150
middle left front	1961	10727	19331
middle left back	1994	10243	20063
middle right front	1944	10511	19936
middle right back	2013	10557	19718
bottom left front	2113	10666	19978
bottom left back	1957	10761	20133
bottom right front	2052	10387	20212
bottom right back	1974	10156	20389
Mean	1997	10495	19996
s.d.	56.41	194.90	275.75
CV%	2.82	1.86	1.38

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-5 - LIGHTING, NOISE, AND OXYGEN LEVELS

Environmental Conditions			
	19-May-01	31-May-01	14-June-01
Light Intensity: (fc)			
Room PE103 in a cage 3 feet above the floor.	4.28	6.7	3.0
Center of room PE 102 3 feet above the floor.	36.1	39.7	43.2
Center of room PE 110 3 feet above the floor.	43.9	45.8	44.5
Noise level: (db)			
1m - 1: Door open	80.1	78.7	78.6
1m - 1: Through port	79.9	80.2	79.7
1m - 2: Door open	78.5	78.4	77.0
1m - 2: Through port	80.8	80.2	79.9
1m - 3: Door open	81.3	79.4	79.2
1m - 3: Through port	82.3	80.2	80.2
1m - 4: Door open	77.9	75.4	74.5
1m - 4: Through port	78.9	77.3	76.4
O₂ Level: (%) (Reading upon removal)			
	No Alarm	No Alarm	No Alarm
1m - 1	20.7	20.7	20.6
1m - 2	20.7	20.8	20.6
1m - 3	20.4	20.7	20.5
1m - 4	20.4	20.6	20.5

1m-1, 1m-2, 1m-3, 1m-4 are exposure chamber designations.

fc = foot candles (measured with an Omega HHLM-2 Light Meter)

db = decibels (measured using an Omega HHSL-1 Sound Meter)

% = % oxygen (measured using a Biosystems Oxy Plus Single Sensor Gas Detector with an alarm at 19.5% O₂)

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-6 – PARTICLE SIZE DATA
0 MG/M³ TARGET CONCENTRATION

0 MG/M ³ TARGET			
IMPACTOR STAGE	STAGE CONSTANT (um)	FILTER WEIGHT DIFFERENCE (UG)	PERCENT IN SIZE RANGE
FILTER	0.30	0	0
8	0.54	10	25
7	0.84	10	25
6	1.50	0	0
5	2.60	10	25
4	4.10	0	0
3	6.80	10	25
2	17.0	0	0
1	28.0	0	0
		TOTAL = 40	
PARTICLE CONCENTRATION = 2.67 MG/M ³			

PARTICLE SIZE DETERMINED WITH A SIERRA SERIES 210 CASCADE IMPACTOR

CONDITIONS:

SAMPLE FLOWRATE (Liters/Minute): 3

SAMPLE DURATION (Minutes): 5

CALCULATION OF PARTICLE CONCENTRATION:

SAMPLE VOLUME = SAMPLE FLOW RATE*SAMPLE DURATION

PARTICLE CONCENTRATION =

((TOTAL FILTER WEIGHT DIFFERENCE [ug]/1000 [ug/mg])/(SAMPLE VOLUME [L]))*1000 [L/M³]

APPENDIX I - INHALATION EXPOSURE DATA

**TABLE I-6 – PARTICLE SIZE DATA FROM FEBRUARY 28, 2001
20,000 MG/M³ TARGET CONCENTRATION**

IMPACTOR STAGE	STAGE CONSTANT (um)	FILTER WEIGHT DIFFERENCE (UG)	PERCENT IN SIZE RANGE
FILTER	0.30	10	33.3
8	0.54	0	0
7	0.84	0	0
6	1.50	0	0
5	2.60	10	33.3
4	4.10	0	0
3	6.80	0	0
2	17.0	10	33.3
1	28.0	0	0
		TOTAL = 30	
CONCENTRATION OF PARTICLES = 2.0 MG/M ³			

PARTICLE SIZE DETERMINED WITH A SIERRA SERIES 210 CASCADE IMPACTOR

CONDITIONS:

SAMPLE FLOWRATE (Liters/Minute): 3

SAMPLE DURATION (Minutes): 5

CALCULATION OF PARTICLE CONCENTRATION:

SAMPLE VOLUME (Liters) = SAMPLE FLOW RATE*SAMPLE DURATION

PARTICLE CONCENTRATION =

((TOTAL FILTER WEIGHT DIFFERENCE/1000 ug/mg)/(SAMPLE VOLUME))*1000 L/M³

APPENDIX I - INHALATION EXPOSURE DATA

**TABLE I-6 – PARTICLE SIZE DATA FROM APRIL 11, 2001
20,000 MG/M³ TARGET CONCENTRATION**

IMPACTOR STAGE	STAGE CONSTANT (um)	FILTER WEIGHT DIFFERENCE (UG)	PERCENT IN SIZE RANGE
FILTER	0.30	40	14.3
8	0.54	10	3.5
7	0.84	0	0
6	1.50	0	0
5	2.60	20	7.1
4	4.10	60	21.4
3	6.80	0	0
2	17.0	20	7.1
1	28.0	130	46.4
		TOTAL = 280	
CONCENTRATION OF PARTICLES = 31.1 MG/M ³			

PARTICLE SIZE DETERMINED WITH A SIERRA SERIES 210 CASCADE IMPACTOR

CONDITIONS:

SAMPLE FLOWRATE (Liters/Minute): 3

SAMPLE DURATION (Minutes): 3

CALCULATION OF PARTICLE CONCENTRATION:

SAMPLE VOLUME (Liters) = SAMPLE FLOW RATE*SAMPLE DURATION

PARTICLE CONCENTRATION =

((TOTAL FILTER WEIGHT DIFFERENCE/1000 ug/mg)/(SAMPLE VOLUME))*1000 L/M³

APPENDIX I - INHALATION EXPOSURE DATA

**TABLE I-6 – PARTICLE SIZE DATA FROM APRIL 12, 2001
20,000 MG/M³ TARGET CONCENTRATION**

IMPACTOR STAGE	STAGE CONSTANT (um)	FILTER WEIGHT DIFFERENCE (UG)	PERCENT IN SIZE RANGE
FILTER	0.30	30	30
8	0.54	10	10
7	0.84	0	0
6	1.50	50	50
5	2.60	0	0
4	4.10	0	0
3	6.80	0	0
2	17.0	10	10
1	28.0	0	0
		TOTAL = 100	
CONCENTRATION OF PARTICLES = 11.1 MG/M ³			

PARTICLE SIZE DETERMINED WITH A SIERRA SERIES 210 CASCADE IMPACTOR

CONDITIONS:

SAMPLE FLOWRATE (Liters/Minute): 3

SAMPLE DURATION (Minutes): 3

CALCULATION OF PARTICLE CONCENTRATION:

SAMPLE VOLUME (Liters) = SAMPLE FLOW RATE*SAMPLE DURATION

PARTICLE CONCENTRATION =

((TOTAL FILTER WEIGHT DIFFERENCE/1000 ug/mg)/(SAMPLE VOLUME))*1000 L/M³

APPENDIX I - INHALATION EXPOSURE DATA (CONT'D)

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES
CHAMBER TEMPERATURES (°F)

0 mg/m ³ Target Concentration													
Time from Start of Exposure (Hours)													
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		64	64	64	64	64	66	66	66	66	66	66	66
20-May-01	62	62	62	62	62	62	62	62	62	62	62	62	62
21-May-01	64	64	64	65	65	65	65	64	64	64	64	64	64
22-May-01	64	64	64	64	64	64	64	64	64	64	64	64	64
23-May-01	64	64	64	64	64	64	65	65	65	65	65	65	65
24-May-01	64	64	64	64	64	65	66	66	66	66	66	66	66
25-May-01	64	64	64	64	64	65	65	65	65	65	65	66	66
26-May-01	64	64	64	65	65	66	66	66	66	66	66	66	66
27-May-01	64	66	66	66	66	66	66	66	66	66	66	66	66
28-May-01	66	66	67	67	67	67	67	67	67	67	67	67	67
29-May-01	66	67	67	67	67	68	68	68	68	68	68	68	68
30-May-01	64	66	67	67	67	68	68	68	68	68	68	68	68
31-May-01	64	64	68	68	68	68	68	68	68	68	68	68	68
1-Jun-01	67	68	68	68	68	68	68	68	68	68	68	68	68
2-Jun-01	68	68	69	70	70	70	70	70	70	70	70	70	70
3-Jun-01	66	66	66	66	68	68	68	68	68	68	68	68	68
4-Jun-01	66	68	68	68	68	68	68	68	68	68	68	68	68
5-Jun-01	64	66	66	66	66	66	66	66	66	67	67	67	67
6-Jun-01	64	64	64	66	66	66	66	66	66	66	66	66	66
7-Jun-01	61	61	61	61	62	62	62	62	66	66	66	66	66
8-Jun-01	63	64	65	65	65	65	65	65	65	65	65	65	65
9-Jun-01	64	64	64	64	64	64	64	64	64	64	64	64	64
10-Jun-01	63	64	64	64	64	64	64	64	64	64	64	64	64
11-Jun-01	62	63	64	64	64	64	64	64	64	64	64	64	64
12-Jun-01	62	62	62	64	64	64	64	64	64	64	64	64	64
13-Jun-01	62	62	63	63	63	63	63	63	63	63	63	63	63
14-Jun-01	61	61	61	61	61	61	61	61	62	62	62	62	62

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER TEMPERATURES (°F)
2000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		66	66	66	66	66	68	68	68	70	70	70	70
20-May-01	62	64	64	64	64	64	64	64	64	64	64	64	64
21-May-01	66	66	68	68	69	70	70	69	69	69	69	69	69
22-May-01	68	68	70	70	70	70	70	70	70	69	69	69	69
23-May-01	66	66	68	68	68	68	68	69	69	69	69	69	69
24-May-01	66	66	68	68	68	69	70	70	70	70	70	70	70
25-May-01	66	66	66	66	66	68	69	69	69	69	69	69	69
26-May-01	68	68	69	69	69	70	70	70	70	70	70	70	70
27-May-01	66	68	69	70	70	70	70	70	70	70	70	70	70
28-May-01	70	70	70	70	70	70	70	70	70	70	70	70	70
29-May-01	68	70	70	70	70	70	70	70	70	70	71	71	71
30-May-01	66	69	70	70	70	71	71	71	71	71	71	71	71
31-May-01	66	66	70	72	72	72	72	72	72	72	72	72	72
1-Jun-01	68	70	70	70	72	70	70	71	71	71	71	71	71
2-Jun-01	69	71	72	72	72	73	73	73	73	73	73	73	73
3-Jun-01	67	70	70	70	70	70	70	70	72	72	72	72	72
4-Jun-01	70	70	71	71	71	72	72	72	71	71	71	71	71
5-Jun-01	66	69	70	70	70	70	70	70	70	72	72	72	72
6-Jun-01	67	68	69	69	70	70	70	70	70	70	70	70	70
7-Jun-01	62	64	66	66	67	68	68	68	69	69	69	69	69
8-Jun-01	64	67	68	68	68	68	68	68	68	68	68	68	68
9-Jun-01	65	66	66	66	68	68	68	68	68	68	68	68	68
10-Jun-01	64	66	66	67	67	67	67	67	67	67	67	67	67
11-Jun-01	64	66	67	67	67	67	68	68	68	68	68	68	68
12-Jun-01	62	64	65	66	68	68	68	68	68	68	68	68	68
13-Jun-01	65	66	67	67	67	67	67	67	67	67	67	67	67
14-Jun-01	63	65	66	66	66	66	66	66	66	66	66	66	66

APPENDIX I - INHALATION EXPOSURE DATA
TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER TEMPERATURES (°F)
10,000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		68	68	68	68	68	68	74	74	72	72	72	72
20-May-01	62	64	64	64	64	65	65	65	65	65	65	65	65
21-May-01	70	72	72	72	72	73	72	72	72	71	71	71	71
22-May-01	70	70	70	72	72	72	72	72	72	72	72	72	72
23-May-01	66	68	70	70	70	70	72	72	72	72	72	72	72
24-May-01	68	68	70	70	70	72	72	72	72	72	72	72	72
25-May-01	65	65	65	65	65	67	71	71	72	72	72	72	72
26-May-01	70	70	72	72	72	72	72	72	72	72	72	72	72
27-May-01	70	72	72	72	72	72	72	72	72	72	72	72	72
28-May-01	70	70	72	72	72	72	72	72	72	72	72	72	72
29-May-01	69	71	72	72	72	73	73	73	73	73	74	74	74
30-May-01	68	70	72	72	72	73	73	73	73	74	74	74	74
31-May-01	66	66	72	74	74	74	74	74	74	74	74	74	74
1-Jun-01	68	70	72	73	74	73	73	73	73	73	73	73	73
2-Jun-01	70	72	74	75	76	76	76	76	76	76	76	76	76
3-Jun-01	66	70	70	70	72	72	72	72	72	74	74	74	74
4-Jun-01	70	70	72	72	74	74	74	74	74	74	74	74	74
5-Jun-01	66	70	71	72	72	72	72	72	72	72	72	72	72
6-Jun-01	69	70	70	71	71	72	72	72	72	72	72	72	72
7-Jun-01	62	64	67	68	70	70	70	70	70	70	70	70	70
8-Jun-01	64	68	70	70	70	71	71	71	71	71	71	71	71
9-Jun-01	66	68	68	68	70	70	70	70	70	70	70	70	70
10-Jun-01	64	68	70	70	70	70	70	70	70	70	70	70	70
11-Jun-01	64	67	70	70	70	70	71	71	71	71	71	71	71
12-Jun-01	62	62	68	70	70	70	70	70	70	70	70	70	70
13-Jun-01	67	69	70	71	71	71	71	71	71	71	71	71	71
14-Jun-01	62	66	66	68	69	69	69	69	69	69	69	69	69

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER TEMPERATURES (°F)
20,000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		64	64	64	64	64	64	68	68	66	66	66	66
20-May-01	62	64	64	64	64	65	65	65	65	65	65	65	65
21-May-01	64	66	66	68	68	68	68	67	67	66	66	66	66
22-May-01	66	66	66	66	66	66	66	66	66	66	66	66	66
23-May-01	64	64	66	66	66	66	66	67	67	67	67	67	67
24-May-01	64	64	66	66	66	66	66	66	66	66	66	66	66
25-May-01	62	62	62	62	62	62	66	66	66	66	66	66	66
26-May-01	65	66	66	67	67	68	68	68	68	68	68	68	68
27-May-01	65	67	68	68	68	68	68	68	68	68	68	68	68
28-May-01	65	67	67	67	67	67	67	67	67	67	68	68	68
29-May-01	64	68	68	68	68	69	69	69	69	69	69	69	69
30-May-01	64	66	68	68	69	69	69	70	70	70	70	70	70
31-May-01	64	64	68	70	70	70	70	70	70	70	70	70	70
1-Jun-01	66	68	68	68	70	70	70	70	70	70	70	70	70
2-Jun-01	67	69	70	71	71	72	72	72	72	72	72	72	72
3-Jun-01	64	68	68	68	68	70	70	70	70	70	70	70	70
4-Jun-01	66	68	68	68	69	70	70	70	70	70	70	70	70
5-Jun-01	64	66	66	67	68	68	68	68	68	68	68	68	68
6-Jun-01	64	66	66	66	66	66	66	66	66	66	66	66	66
7-Jun-01	60	62	62	64	65	65	65	65	60	67	67	67	67
8-Jun-01	62	64	65	66	67	67	66	66	66	66	66	66	66
9-Jun-01	62	64	64	64	66	66	66	66	66	66	66	66	66
10-Jun-01	62	64	65	66	66	66	66	66	66	66	66	66	66
11-Jun-01	62	62	64	65	65	65	66	66	66	66	66	66	66
12-Jun-01	60	63	63	64	64	64	64	69	69	69	69	69	69
13-Jun-01	62	64	64	64	64	64	64	64	64	64	64	64	64
14-Jun-01	60	62	62	64	64	64	64	64	64	64	64	64	64

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH)
0 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		80	70	70	70	70	80	80	80	71	71	71	71
20-May-01	79	79	79	79	79	79	79	79	79	79	79	79	79
21-May-01	75	75	75	75	75	75	75	70	70	70	70	70	70
22-May-01	70	70	75	80	80	80	80	80	80	80	80	80	80
23-May-01	80	80	80	80	80	80	75	75	75	75	75	75	75
24-May-01	80	80	80	80	80	75	71	71	71	71	71	71	71
25-May-01	80	80	80	80	80	75	75	75	75	75	75	71	71
26-May-01	80	80	80	75	75	71	71	71	71	71	71	71	71
27-May-01	80	71	71	71	71	71	71	71	71	71	71	71	71
28-May-01	80	80	67	67	67	67	67	67	67	67	67	67	67
29-May-01	71	76	76	76	76	72	72	72	72	72	72	72	72
30-May-01	80	71	67	58	58	55	55	55	55	55	55	55	55
31-May-01	80	80	64	64	64	64	64	64	64	64	64	64	64
1-Jun-01	67	64	64	64	64	64	64	64	64	64	64	64	64
2-Jun-01	81	81	76	72	72	72	72	72	72	72	72	72	72
3-Jun-01	80	80	80	80	72	72	72	72	72	72	72	72	72
4-Jun-01	80	72	72	72	72	72	72	72	72	72	72	72	72
5-Jun-01	80	71	71	71	71	71	71	71	71	71	71	71	71
6-Jun-01	80	80	80	71	71	71	71	71	71	71	71	71	71
7-Jun-01	95	95	95	95	89	89	89	89	71	71	71	71	71
8-Jun-01	65	70	66	66	66	66	66	66	65	65	68	68	68
9-Jun-01	70	70	70	70	70	70	70	70	70	70	70	70	70
10-Jun-01	74	70	70	70	70	70	70	70	70	70	70	70	70
11-Jun-01	79	74	70	70	70	70	70	70	70	70	70	70	70
12-Jun-01	89	89	89	80	80	80	80	80	80	80	80	80	80
13-Jun-01	74	74	70	70	70	70	70	70	70	70	70	70	70
14-Jun-01	84	84	84	84	84	84	84	84	79	79	79	79	79

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH)
2000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		80	71	71	71	71	81	81	81	56	56	56	56
20-May-01	79	70	70	70	70	70	70	70	70	70	70	70	70
21-May-01	71	71	67	67	68	64	64	64	64	64	64	64	64
22-May-01	72	72	64	64	64	72	72	72	72	68	68	68	68
23-May-01	71	71	72	72	72	72	72	68	68	68	68	68	68
24-May-01	75	75	72	72	72	64	64	64	64	64	64	64	64
25-May-01	71	71	71	71	71	72	68	68	68	68	68	68	68
26-May-01	72	72	68	68	68	64	64	64	64	64	64	64	64
27-May-01	80	72	68	64	64	64	64	64	64	64	64	64	64
28-May-01	72	72	72	72	72	72	72	72	72	64	64	64	64
29-May-01	72	64	64	64	64	68	68	68	68	72	69	69	69
30-May-01	71	64	61	61	61	53	53	53	53	53	53	53	53
31-May-01	71	71	64	57	57	57	57	57	57	57	57	57	57
1-Jun-01	64	57	57	57	57	57	57	57	57	57	57	57	57
2-Jun-01	81	69	69	73	73	69	69	69	69	69	69	69	69
3-Jun-01	76	64	64	64	64	64	64	64	65	65	65	65	65
4-Jun-01	68	68	64	64	64	65	65	65	64	64	64	64	64
5-Jun-01	80	68	64	64	64	64	64	64	64	61	61	61	61
6-Jun-01	71	67	68	68	64	64	64	64	64	64	64	64	64
7-Jun-01	89	80	71	71	67	63	63	63	64	64	64	64	64
8-Jun-01	70	62	63	63	63	63	63	63	63	63	63	63	63
9-Jun-01	66	62	62	62	63	63	63	63	63	63	63	63	63
10-Jun-01	70	66	66	62	62	62	62	62	62	62	62	62	62
11-Jun-01	75	71	67	67	67	67	63	63	63	63	63	63	63
12-Jun-01	89	80	75	71	64	64	64	64	64	64	64	64	64
13-Jun-01	66	66	67	67	67	67	67	67	67	67	67	67	67
14-Jun-01	74	70	71	71	71	71	71	71	71	71	71	71	71

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH)
10,000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		72	63	63	63	63	63	66	66	57	57	57	57
20-May-01	79	70	70	70	70	66	66	66	66	66	66	66	66
21-May-01	68	65	65	65	65	65	65	61	61	69	69	69	69
22-May-01	72	72	72	65	65	65	65	61	61	61	61	61	61
23-May-01	71	72	64	64	64	64	61	65	65	65	65	65	65
24-May-01	72	72	68	68	68	65	65	65	65	65	65	65	65
25-May-01	75	75	75	75	75	76	69	69	65	69	69	69	69
26-May-01	72	72	65	65	65	65	65	65	65	65	65	65	65
27-May-01	72	65	65	65	65	65	65	65	65	65	65	65	65
28-May-01	72	72	65	65	65	65	65	65	65	65	65	65	65
29-May-01	72	69	65	65	65	65	65	65	65	65	66	66	66
30-May-01	63	64	57	57	57	54	54	54	54	54	54	54	54
31-May-01	71	71	61	58	58	58	58	58	58	58	58	58	58
1-Jun-01	72	64	57	54	54	54	54	54	54	54	54	54	54
2-Jun-01	81	73	66	66	67	67	67	67	67	67	67	67	67
3-Jun-01	71	72	72	72	65	65	65	65	65	66	66	66	66
4-Jun-01	72	72	65	65	58	62	62	62	62	62	62	62	62
5-Jun-01	71	64	64	65	65	65	65	65	65	65	65	65	65
6-Jun-01	68	64	64	64	64	61	61	61	61	61	61	61	61
7-Jun-01	100	90	76	72	64	64	64	64	64	64	64	64	64
8-Jun-01	70	64	57	57	57	60	60	60	60	60	60	60	60
9-Jun-01	66	64	64	64	64	64	64	64	64	64	64	64	64
10-Jun-01	70	64	60	60	60	60	60	60	60	60	60	60	60
11-Jun-01	70	71	64	64	64	64	64	64	64	64	64	64	64
12-Jun-01	89	89	72	68	68	68	68	68	68	68	68	68	68
13-Jun-01	67	59	64	60	60	60	60	60	60	60	60	60	60
14-Jun-01	79	71	71	63	68	68	68	68	68	68	68	68	68

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH)
20,000 mg/m³ Target Concentration

	Time from Start of Exposure (Hours)												
	0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
19-May-01		80	80	70	70	70	70	76	76	71	71	71	71
20-May-01	79	70	70	70	70	66	66	66	66	66	66	66	66
21-May-01	70	71	71	63	63	63	63	62	62	68	68	68	68
22-May-01	71	75	71	71	71	71	71	71	71	71	71	71	71
23-May-01	70	80	71	71	71	71	71	67	67	67	67	67	67
24-May-01	80	80	71	71	71	71	71	71	71	71	71	71	71
25-May-01	79	79	79	79	79	79	71	71	71	71	71	71	71
26-May-01	75	71	71	71	71	67	67	67	67	67	67	67	67
27-May-01	75	71	67	67	67	67	67	67	67	67	67	67	67
28-May-01	85	76	76	76	76	76	76	76	76	76	72	72	72
29-May-01	70	72	72	72	72	68	68	68	68	68	68	68	68
30-May-01	70	71	63	63	59	59	59	49	49	56	56	56	56
31-May-01	75	75	67	60	60	60	60	60	60	60	60	60	60
1-Jun-01	71	63	63	63	56	56	56	56	56	56	56	56	56
2-Jun-01	80	76	72	73	73	65	65	65	65	65	65	65	65
3-Jun-01	80	63	63	63	63	64	64	64	64	64	64	64	64
4-Jun-01	80	72	72	72	68	64	64	64	64	64	64	64	64
5-Jun-01	80	71	71	71	63	63	63	63	63	63	63	63	63
6-Jun-01	80	71	71	71	71	71	71	71	71	71	71	71	71
7-Jun-01	100	89	89	80	75	75	75	75	71	67	67	67	67
8-Jun-01	69	70	66	62	58	58	62	62	62	62	62	62	62
9-Jun-01	69	70	70	70	66	66	60	60	60	60	60	60	60
10-Jun-01	74	70	70	66	66	66	66	66	66	66	66	66	66
11-Jun-01	74	74	75	70	70	70	71	71	71	71	71	71	71
12-Jun-01	89	84	84	80	80	80	80	80	80	80	80	80	80
13-Jun-01	74	65	70	70	70	70	70	70	70	70	70	70	70
14-Jun-01	78	79	79	75	70	70	70	70	70	70	70	70	70

APPENDIX J- ANALYTICAL CHEMISTRY REPORT

SUMMARY

Charcoal tube sorbent tube samples were received by the Analytical Chemistry Laboratory from inhalation chamber exposures and were characterized for hydrocarbon distribution using capillary gas chromatography with flame ionization detection (GC/FID). Sorbent tube samples were stored in a freezer pending analysis.

SAMPLE PREPARATION

The front and back sections of each charcoal sample tube were desorbed and analyzed separately to assess potential sampling breakthrough. The charcoal tube sections were desorbed with 2.0 - 3.0 mL carbon disulfide (CS₂) for at least 30 minutes. Aliquots were stored in the freezer until they were analyzed. Aliquots were then analyzed by GC-FID.

STANDARDIZATION

A standard mixture was prepared in (CS₂) containing each of the 18 target hydrocarbons. Analysis of the standard mixture was used to confirm the relative retention times of each target hydrocarbon and was not used for quantitative purposes.

APPENDIX J- ANALYTICAL CHEMISTRY REPORT (CONT'D)

INSTRUMENT CONDITIONS FOR MRD-00-695 ON CHARCOAL SORBENT TUBE

The following GC conditions and equipment were used to determine the hydrocarbon distribution of test substance on chamber characterization sorbent tubes:

GC	Perkin Elmer XL Autosystem
Detector Type (range)	FID (2 ⁴)
Detector Temperature; (gas flows)	225°C (H ₂ 45 mL/min; Air 450 mL/min)
Injector Temperature (Split ratio)	225°C (split injection ~5:1 to 16:1)
Injection Volume	1.0 µL
Analytical Column	Supleco Petrocol DH 150 fused silica capillary column (150m x 0.25mm; 1.0µm film thickness)
Oven Temperature Program	35°C (hold 130 minutes); ramp @ 2°C/minute to 200°C
Data Collection	Perkin Elmer Nelson Turbochrom (TC4) version 4.1.2
Carrier Gas Program	65 psi (He)

RESULTS

Hydrocarbon characterization was performed on an area percent basis for each of the 18 target hydrocarbons. Results are listed in Table J-1.

Analysis of chamber samples taken during study Week 1 (25 May 01) and Week 2 (1 June 01) indicated significant breakthrough at the 10,000 mg/m³ target (mid) and 20,000 mg/m³ target (high) exposure levels. The sampling method was subsequently modified to use larger charcoal tubes (800/200 mg) with a lower sampling rate of 0.1 L/min and reducing the overall sample volume to 5 liters. Subsequent analysis indicated that these modifications eliminated breakthrough.

For those samples where breakthrough was not significant, target hydrocarbon distribution measured from the chamber characterization samples was in good agreement with the distribution measured from characterization of neat MRD-00-695 performed as part of EMBSI study 167490.

D. J. Letinski, M.S.
Analytical Chemistry Supervisor

Date

APPENDIX J- ANALYTICAL CHEMISTRY REPORT (CONT'D)

TABLE J-1 - CHAMBER CHARACTERIZATION - HYDROCARBON DISTRIBUTION

Sample Date	25-May-01			1-Jun-01			8-Jun-01			8-Jun-01			10-Jun-01			14-Jun-01		
Inhalation ID	1*	2	3	4*	5	6	7	8	9	80613	80614	80615	106011	106012	106013	10	11	12
	mg/m ³			mg/m ³			mg/m ³			mg/m ³			mg/m ³			mg/m ³		
Target	<u>2000</u>	<u>10,000</u>	<u>20,000</u>	<u>2000</u>	<u>10,000</u>	<u>20,000</u>	<u>2000</u>	<u>10,000</u>	<u>20,000</u>	<u>2000</u>	<u>10,000</u>	<u>20,000</u>	<u>2000</u>	<u>10,000</u>	<u>20,000</u>	<u>2000</u>	<u>10,000</u>	<u>20,000</u>
Compound	RESULTS ARE in "AREA %" of TARGET HYDROCARBONS																	
isobutane	2.0			2.4			2.5	2.0	2.0	2.8	3.0	2.5	2.9	2.3	2.6	2.4	2.7	2.7
n-butane	11			13			13	11	11	15	14	13	14	12	13	13	13	13
isopentane	36			35			38	35	33	39	36	35	37	36	35	37	35	35
n-pentane	14			14			10	14	14	10	13	14	12	14	14	10	14	14
trans-2-pentene	2.6			2.6			3.5	2.6	2.6	2.8	2.6	2.6	3.1	2.6	2.6	2.9	2.5	2.6
2-methyl-2-butene	3.6			3.5			1.0	3.7	3.9	0.17	2.6	4.0	1	3.7	3.9	0.86	3.5	3.9
2,3-dimethylbutane	1.8	RESULTS		1.7	RESULTS		1.7	1.9	1.9	1.5	1.7	1.7	1.6	1.7	1.8	1.7	1.7	1.8
2-methylpentane	7.1	NOT		7	NOT		7.6	7.5	7.9	7.2	6.8	7.0	7.3	7.1	7.1	7.6	7	6.9
3-methylpentane	4.1	REPORTED		4	REPORTED		4.3	4.3	4.5	4.1	3.9	4.0	4.1	4.1	4.1	4.4	4.1	3.9
n-hexane	3.5	DUE		3.4	DUE		3.4	3.7	4.0	3.4	3.3	3.4	3.2	3.4	3.4	3.4	3.4	3.3
methylcyclopentane	1.7	TO		1.7	TO		1.8	1.8	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6
2,4-dimethylpentane	1.2	SIGNIFICANT		1.2	SIGNIFICANT		1.2	1.3	1.4	1.1	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2
benzene	2.4	SAMPLE		2.4	SAMPLE		3.0	2.5	2.8	3.1	2.3	2.2	2.9	2.4	2.3	3.4	2.3	2.2
2-methylhexane	1.3	BREAKTHROUGH		1.3	BREAKTHROUGH		1.2	1.4	1.5	1.2	1.3	1.3	1.1	1.3	1.3	1.3	1.3	1.2
2,3-dimethylpentane	1.3			1.3			1.2	1.3	1.5	1.2	1.3	1.3	1.1	1.3	1.3	1.3	1.3	1.2
3-methylhexane	1.5			1.5			1.6	1.7	1.7	1.4	1.5	1.5	1.4	1.5	1.5	1.6	1.5	1.4
isooctane	1.5			1.6			1.7	1.7	1.8	1.7	1.5	1.5	1.7	1.6	1.6	1.6	1.6	1.5
toluene	<u>3.1</u>			<u>3.0</u>			<u>3.2</u>	<u>3.2</u>	<u>3.6</u>	<u>2.8</u>	<u>2.9</u>	<u>3.0</u>	<u>2.8</u>	<u>2.9</u>	<u>2.9</u>	<u>4.0</u>	<u>3.0</u>	<u>2.7</u>
Sum	100			101			100	101	101	100	101	101	100	101	101	99	101	100

Sum may not equal 100% due to rounding.

No hydrocarbon target compounds were detected on the back section of the sorbent tubes analyzed except where noted.

* These samples showed small amounts isobutane and n-butane on the back tube section but was not significant in the overall hydrocarbon distribution

APPENDIX K – STATISTICIAN’S REPORT

Analysis Of Fetal Data From A Whole-Body Inhalation Developmental Toxicity Study In Mice With Baseline Gasoline Vapor Condensate (MRD-00-695)

This report details the statistical analysis of fetal body weight and anomaly data from ExxonMobil Study 165934. The study was conducted to evaluate the potential developmental toxicity of Baseline Gasoline Vapor Condensate (BGVC). BGVC was administered via whole-body inhalation exposure to pregnant rats during the period of major organogenesis and fetal growth. BGVC was administered by whole-body inhalation exposure to 25 confirmed-mated Crl: CD[®](SD) IGS BR female rats at target doses of 0 (air control) 2000, 10,000, and 20,000 mg/m³ for six hours (plus the theoretical equilibration time) daily from Gestation Day (GD) 5 through GD 20.

The fetal body weight was analyzed by a mixed model analysis of variance that provides an accurate statistical model of the biology. The analysis used the litter as the basis for analysis and effectively used the litter size as a covariate. The model considered dose group, litter size, and fetal sex as explanatory variables. When the overall effect of dose, or the dose by sex effect, was statistically significant the dose groups means were tested pairwise vs. the control group using least squares means. The least squares means allows comparisons that account for differences in litter size and sex. The mathematical model is based on a paper by Chen, et al (1996). The analysis was run using SAS with code suggested in Little, et al (1997).

The analysis of anomalies (malformations or variations) was based on a Generalized Estimating Equation (GEE) application of the linearized model, Ryan (1992). The model used the litter as the basis for analysis and considered correlation among littermates by incorporating an estimated constant correlation and the litter size as a covariate. When the overall effect of dose, or the dose by sex effect, was statistically significant the dose groups were tested pairwise vs. the control group using least squares means. The least squares means allows comparisons that account for differences in litter size. There were three categories of anomalies tested, and within each category specific anomalies were also tested. In addition to the category specific anomalies a series of combined analyses were performed within each category:

- Combined Malformations and Variations for All Fetuses
- Combined Malformations and Variations for Alive Fetuses
- Malformations for All Fetuses
- Malformations for Alive Fetuses
- Variations for All Fetuses
- Variations for Alive Fetuses

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

Table I lists the three categories and corresponding sub-categories. Within each category several subcategories were combined into a group of similar anomalies. For example in the Category Skeletal the separate sub-categories of “SKELETAL/RIBS: Rudimentary supernumary ribs” and “SKELETAL/RIBS: Well-formed supernumerary ribs” were combined into a sub-category “SKELETAL/RIBS: Supernumerary ribs”. In this combined category an animal is counted once when he, or she, exhibits more than one characteristic. The sub-categories that were combined are listed in the Sub-categories Combined column of Table 1 by the sub-category number. The analyses were run using SAS.

Table I
Malformation Categories and Corresponding Sub-categories

Category	Sub-Category	Sub-categories combined
Head	1 – HEAD: Retinal fold	
External	1 – EXTERNAL: Malrotated hindpaw, Left	
Abdomen/ Thorax	1 – ABDOMEN/THORAX: Hydroureter	
	2 – ABDOMEN/THORAX: Umbilical artery arises from the left side of urinary bladder	
Skeletal	1 – SKELETAL/RIBS (L1): Rudimentary supernumary ribs	
	2 – SKELETAL/RIBS (L1): Well-formed supernumary ribs	
	3 – SKELETAL/STERNEBRAE (V): Unossified	
	4 – SKELETAL/STERNEBRAE: Hypoplastic sternebrae	
	5 – SKELETAL/VERTEBRAE (L): Presacral vertebrae	
	6 – SKELETAL/VERTEBRAE (T11 ANLAGE): Hypoplastic	
	7 – SKELETAL/VERTEBRAE: Bifid vertebral centra	
	8 – SKELETAL/VERTEBRAE: Dumbell-shaped vertebral centra	
	9 – SKELETAL/RIBS (L1): Supernumary ribs	1,2
	10 – SKELETAL/STERNEBRAE: Hypoplastic sternebrae (all)	3,4
	11 – SKELETAL/VERTEBRAE: Hypoplastic vertebral centra	7,8

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

RESULTS:

BODY WEIGHT ANALYSIS

There was a statistically significant difference in the mean fetal litter weights among the dose groups ($p=0.01$). Table II shows the mean fetal weight and the least squares mean fetal weight. The weight difference between the male and female pups was similar across the dose groups (0.25; 0.31; 0.36; 0.29); therefore the mean pup weight irrespective of sex is presented.

Table II
Mean fetal weight, the least squares mean fetal weight

Dose Group (mg/m ³)	n litters	n fetuses	observed fetus mean (gm)	Least squares fetus mean (gm)
0	24	359	5.63	5.62
2,000	24	372	5.38	5.38**
10,000	24	374	5.33	5.34**
20,000	24	390	5.35	5.36**


** different from control $p \leq 0.01$

ANOMALY ANALYSES

No anomaly analyses indicated statistically significant differences among the dose groups. Incidence tables are provided in the appendix.

CONCLUSION:

Based on these findings, administration of the test substance at the exposures tested was not associated with a change in mean litter fetal body weight. There were no changes in the number of anomalies.



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Date

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

References:

Chen, Gaylor, and Laborde, “Dose-response modeling of growth for developmental toxicity”, Environmetrics, vol 7, pg 135-144, 1996.

Little, Milliken, Stroup, and Wolfinger, “SAS System for Mixed Models“, SAS Institute, Cary, NC, 1997, section 5.6.2, pg 203.

Ryan, L., “The use of generalized estimating equations for risk assessment in developmental toxicity”, Risk Analysis, 12(3), pg 439-447, 1992.

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APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

APPENDIX Anomaly Counts

Study # 169534

Head Variations and Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	2	2
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	0	0
20000 MG/M3	24	199	2	2

Head Variations and Malformations - combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	2	2
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	0	0
20000 MG/M3	24	199	2	2

Head Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	2	2
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	0	0
20000 MG/M3	24	199	2	2

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

Head Malformations - combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	2	2
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	0	0
20000 MG/M3	24	199	2	2

head - individual HEAD: Retinal fold

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	2	2
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	0	0
20000 MG/M3	24	199	2	2

External Variations and Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	359	1	1
2000 MG/M3	24	372	1	1
10000 MG/M3	24	374	0	0
20000 MG/M3	24	390	0	0

External Variations and Malformations - combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	359	1	1
2000 MG/M3	24	372	1	1
10000 MG/M3	24	374	0	0
20000 MG/M3	24	390	0	0

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

External Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	359	1	1
2000 MG/M3	24	372	1	1
10000 MG/M3	24	374	0	0
20000 MG/M3	24	390	0	0

External Malformations - combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	359	1	1
2000 MG/M3	24	372	1	1
10000 MG/M3	24	374	0	0
20000 MG/M3	24	390	0	0

external - individual EXTERNAL: Malrotated hindpaw, Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	359	1	1
2000 MG/M3	24	372	1	1
10000 MG/M3	24	374	0	0
20000 MG/M3	24	390	0	0

Visceral Variations and Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	1	1
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	2	2
20000 MG/M3	24	199	2	3

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

Visceral Variations and Malformations – combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	1	1
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	2	2
20000 MG/M3	24	199	2	3

Visceral Variations – combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	0	0
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	0	0

Visceral Variations – combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	0	0
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	0	0

Visceral Malformations – combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	1	1
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	2	3

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

Visceral Malformations - combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	1	1
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	2	3

visceral - individual ABDOMEN/THORAX: Hydroureter

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	1	1
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	2	3

visceral - individual ABDOMEN/THORAX: Umbilical artery arises from the left side of urinary bladder

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	178	0	0
2000 MG/M3	24	184	0	0
10000 MG/M3	24	187	1	1
20000 MG/M3	24	199	0	0

Skeletal Variations and Malformations - combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	12	16
2000 MG/M3	24	188	10	12
10000 MG/M3	24	187	11	21
20000 MG/M3	24	191	14	17

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

Skeletal Variations and Malformations – combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	12	16
2000 MG/M3	24	188	10	12
10000 MG/M3	24	187	11	21
20000 MG/M3	24	191	14	17

Skeletal Variations – combined All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	12	16
2000 MG/M3	24	188	10	12
10000 MG/M3	24	187	11	21
20000 MG/M3	24	191	14	17

Skeletal Variations – combined Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	12	16
2000 MG/M3	24	188	10	12
10000 MG/M3	24	187	11	21
20000 MG/M3	24	191	14	17

skeletal – individual SKELETAL/RIBS (L1): Rudimentary supernumary ribs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	6	10
2000 MG/M3	24	188	4	4
10000 MG/M3	24	187	5	13
20000 MG/M3	24	191	5	6

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

skeletal - individual
SKELETAL/RIBS (L1): Well-formed supernumary ribs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	0	0
2000 MG/M3	24	188	1	1
10000 MG/M3	24	187	0	0
20000 MG/M3	24	191	1	1

skeletal - individual
SKELETAL/STERNEBRAE (V): Unossified

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	2	2
2000 MG/M3	24	188	3	3
10000 MG/M3	24	187	3	3
20000 MG/M3	24	191	2	4

skeletal - individual
SKELETAL/STERNEBRAE: Hypoplastic sternbrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	0	0
2000 MG/M3	24	188	2	2
10000 MG/M3	24	187	0	0
20000 MG/M3	24	191	0	0

skeletal - individual
SKELETAL/VERTEBRAE (L): Presacral vertebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	0	0
2000 MG/M3	24	188	1	1
10000 MG/M3	24	187	0	0
20000 MG/M3	24	191	0	0

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

skeletal - individual
SKELETAL/VERTEBRAE (T11 ANLAGE): Hypoplastic

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	0	0
2000 MG/M3	24	188	1	1
10000 MG/M3	24	187	0	0
20000 MG/M3	24	191	0	0

skeletal - individual
SKELETAL/VERTEBRAE: Bifid vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	2	2
2000 MG/M3	24	188	4	5
10000 MG/M3	24	187	2	3
20000 MG/M3	24	191	4	4

skeletal - individual
SKELETAL/VERTEBRAE: Dumbell-shaped vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	2	2
2000 MG/M3	24	188	1	1
10000 MG/M3	24	187	2	2
20000 MG/M3	24	191	3	3

skeletal - combined
SKELETAL/RIBS (L1): Supernumary ribs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	6	10
2000 MG/M3	24	188	4	4
10000 MG/M3	24	187	5	13
20000 MG/M3	24	191	5	6

APPENDIX K – STATISTICIAN’S REPORT (CONT’D)

skeletal - combined
SKELETAL/STERNEBRAE: Hypoplastic sternebrae (all)

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	2	2
2000 MG/M3	24	188	4	4
10000 MG/M3	24	187	3	3
20000 MG/M3	24	191	2	4

skeletal - combined
SKELETAL/VERTEBRAE: Hypoplastic vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	181	4	4
2000 MG/M3	24	188	5	6
10000 MG/M3	24	187	4	5
20000 MG/M3	24	191	7	7

7

7

APPENDIX L - HISTORICAL CONTROL DATA

SUPPLIER: Charles River Laboratories, Inc.

FEED: PMI Certified Rodent Chow (5002 Meal)

STUDY NUMBER	STUDY DATES	SUPPLIER LOCATION/AREA	SPECIES/STRAIN	NUMBER OF ANIMALS PER CONTROL GROUP	TESTING FACILITY LOCATION	DOSING ROUTE/CARRIER
1 (A,B)	May 9, 2000 - June 2, 2000	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	25	Annandale, NJ	Oral/Corn Oil

**APPENDIX L - HISTORICAL CONTROL DATA
(UTERINE IMPLANTATION DATA)**

	LIVE	MALE	FEMALE	RESORPTIONS	IMPLANTS	CORPORA LUTEA	DEAD	FETUS/ IMPLANTS	RESORPTIONS/ IMPLANTS	F/I TRANSFORMED
HIGH	16.04	7.84	8.36	0.52	16.48	17.16	0	0.97	0.03	79.840760
LOW	15.92	7.56	8.20	0.44	16.44	16.88	0	0.97	0.03	79.294360
STUDY #										
1(B)	16.04	7.84	8.20	0.44	16.48	17.16	0	0.97	0.03	79.840760
STD	2.24	1.57	1.91	0.77	2.02	1.93	0	0.05	0.05	5.232909
(N)	25	25	25	25	25	25	25	25	25	25
1(A)	15.92	7.56	8.36	0.52	16.44	16.88	0	0.97	0.03	79.294360
STD	1.53	1.69	1.60	0.71	1.42	1.48	0	0.04	0.04	4.836482
(N)	25	25	25	25	25	25	25	25	25	25

**APPENDIX L - HISTORICAL CONTROL DATA
(UTERINE IMPLANTATION DATA)**

	R/I TRANSFORMED	D/I TRANSFORMED	DEAD/ IMPLANTS	PRE IMPLANT LOSS	POST IMPLANT LOSS	MALFORMATIONS	VARIATIONS	AFFECTED
HIGH	10.706120	7.117	0	3.9	3.1	0.12	0.10	0.60
LOW	10.159600	7.103	0	2.5	2.8	0.08	0.00	0.50
STUDY #								
1(B)	10.159600	7.117	0	3.9	2.8	0.08	0.00	0.50
STD	5.232766	0.478	0	7.0	5.0	0.40	0.00	0.80
(N)	25	25	25	25	25	25	25	25
1(A)	10.706120	7.103	0	2.5	3.1	0.12	0.10	0.60
STD	4.836645	0.318	0	4.3	4.3	0.33	0.40	0.70
(N)	25	25	25	25	25	25	25	25

**APPENDIX L - HISTORICAL CONTROL DATA
(FETAL BODY WEIGHTS)**

	MALE	FEMALE
HIGH	5.61	5.31
LOW	5.41	5.16
STUDY #		
1(B)	5.41	5.16
STD	0.45	0.39
(N)	196	205
1(A)	5.61	5.31
STD	0.38	0.37
(N)	189	209

**APPENDIX L - HISTORICAL CONTROL DATA
(EXTERNAL DATA)**

STUDY #	1(B)	1(A)
% STUNTED - F	1.25	0
% STUNTED - L	16.00	0
% EXT. VAR. - F	0	0
% EXT. VAR. - L	0	0
% EXT. MAL - F	0	0.50
% EXT. MAL. - L	0	8.00
Malrotated hindpaw - F		0.50
Malrotated hindpaw - L		8.00

NOTE: F - Fetus
L - Litter

**APPENDIX L - HISTORICAL CONTROL DATA
(INTERNAL DATA)**

STUDY #	1(B)	1(A)
% VIS. VAR. - F	0	1.00
% VIS. VAR. - L	0	4.00
% VIS. MAL. - F	1.00	0.50
% VIS. MAL. - L	4.00	4.00
Microphthalmia - F	0.51	
Microphthalmia - L	4.00	
Ureter(s): Convoluted - F		1.00
Ureter(s): Convoluted - L		4.00
Hydroureter - F	0.50	0.50
Hydroureter - L	4.00	4.00

**APPENDIX L - HISTORICAL CONTROL DATA
(SKELETAL DATA)**

There is no historical data for the fetal skeletons.

APPENDIX M – FEED AND WATER ANALYSES
FEED ANALYSIS



Return to Certified Analysis Retrieval

Product Code: 5002M
Product Desc: CERTIFIED RODENT DIET MEAL
Lab Number: L0110623-3
Lot Code: JAN 08 01 2B
Entered: 1/10/2001

Assay	Analysis	Units
PROTEIN	21	%
FAT ACID (HYDRO.)	5.3	%
FIBER (CRUDE)	4.38	%
ARSENIC	0.421	PPM
CADMIUM	0.063	PPM
CALCIUM	0.789	%
LEAD	0.14	PPM
MERCURY	LESS THAN 0.025	PPM
PHOSPHORUS	0.556	%
SELENIUM	0.331	PPM

ORGANOPHOSPHATES	PPM	ORGANOPHOSPHATES	PPM
Diazinon	LESS THAN 0.02	Disulfoton	LESS THAN 0.02
Ethion	LESS THAN 0.02	Malathion	LESS THAN 0.02
Methyl Parathion	LESS THAN 0.02	Parathion	LESS THAN 0.02
Thimet	LESS THAN 0.02	Thiodan	LESS THAN 0.02
Trithion	LESS THAN 0.02		

PESTICIDES AND PCB	PPM	PESTICIDES AND PCB	PPM
Aldrin	LESS THAN 0.02	Alpha-BHC	LESS THAN 0.02
Beta-BHC	LESS THAN 0.02	Chlordane	LESS THAN 0.02
DDE	LESS THAN 0.02	DDT	LESS THAN 0.02
Delta-BHC	LESS THAN 0.02	Dieldrin	LESS THAN 0.02
Endrin	LESS THAN 0.02	HCB	LESS THAN 0.02
Heptachlor	LESS THAN 0.02	Heptachlor Epoxide	LESS THAN 0.02
Lindane	LESS THAN 0.02	Methoxychlor	LESS THAN 0.02
Mirex	LESS THAN 0.02	PCB	LESS THAN 0.15

AFLATOXINS	Aflatoxins	LESS THAN 5 PPB
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No notes.

For additional information, please contact:

- 1) Customer Service at (314) 982-1310 -- for assay methodology
- 2) Dr. Dorrance Haught at (314) 317-5178 -- for nutritional interpretation
- 3) Richmond, IN Manufacturing Plant at (765) 962-9561 -- all other questions

The term "Less Than" is used to signify the lower limit of quantitation of the procedure under the conditions employed.
The use of the term "Less Than" does not imply that traces of analyte were present.

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS

Accutest Laboratories

Report of Analysis

Page 1 of 2

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 624		
Project:	Lab Animal Room Water		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T20546.D	1	05/26/01	YYL	n/a	n/a	VT649
Run #2							

VOA PPL List

CAS No.	Compound	Result	MCL	RL	Units	Q
107-02-8	Acrolein	ND		6.6	ug/l	
107-13-1	Acrylonitrile	ND		4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.27	ug/l	
75-27-4	Bromodichloromethane	ND		0.19	ug/l	
75-25-2	Bromoform	ND		0.53	ug/l	
74-83-9	Bromomethane	ND		0.72	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	0.67	ug/l	
108-90-7	Chlorobenzene	ND	50	0.31	ug/l	
75-00-3	Chloroethane	ND		0.86	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND		0.60	ug/l	
67-66-3	Chloroform	ND		0.60	ug/l	
74-87-3	Chloromethane	ND		1.0	ug/l	
124-48-1	Dibromochloromethane	ND		0.28	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	600	0.58	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	600	0.66	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	75	0.70	ug/l	
75-71-8	Dichlorodifluoromethane	ND		1.1	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	0.55	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.75	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	0.69	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	70	0.89	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	0.89	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	0.29	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND		0.55	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND		0.60	ug/l	
100-41-4	Ethylbenzene	ND	700	0.60	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	70	0.26	ug/l	
75-09-2	Methylene chloride	1.2	3.0	0.39	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.28	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.91	ug/l	
108-88-3	Toluene	ND	1000	0.62	ug/l	
71-55-6	1,1,1-Trichloroethane	1.0	30	0.78	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	3.0	0.59	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND		1.3	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.3	ug/l	

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ND = Not detected

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E = Indicates value exceeds calibration range

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B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 2 of 2

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 624		
Project:	Lab Animal Room Water		

VOA PPL List

CAS No.	Compound	Result	MCL	RL	Units	Q
1330-20-7	Xylenes (total)	ND	1000	1.2	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
17060-07-0	1,2-Dichloroethane-D4 (SUR)	105%		73-127%		
2037-26-5	Toluene-D8 (SUR)	102%		88-111%		
460-00-4	4-Bromofluorobenzene (SUR)	94%		75-114%		

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 1 of 2

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 625 EPA 625		
Project:	Lab Animal Room Water		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M15002.D	1	06/02/01	CBD	05/27/01	OP9476	EM440
Run #2							

ABN AP9 special List

CAS No.	Compound	Result	MCL	RL	Units	Q
95-57-8	2-Chlorophenol	ND		1.4	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND		0.99	ug/l	
120-83-2	2,4-Dichlorophenol	ND		1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND		1.4	ug/l	
51-28-5	2,4-Dinitrophenol	ND		1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND		1.2	ug/l	
88-75-5	2-Nitrophenol	ND		1.5	ug/l	
100-02-7	4-Nitrophenol	ND		1.7	ug/l	
87-86-5	Pentachlorophenol	ND	1.0	3.8	ug/l	
108-95-2	Phenol	ND		0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND		1.7	ug/l	
83-32-9	Acenaphthene	ND		0.20	ug/l	
208-96-8	Acenaphthylene	ND		0.22	ug/l	
120-12-7	Anthracene	ND		0.10	ug/l	
92-87-5	Benzidine	ND		20	ug/l	
56-55-3	Benzo(a)anthracene	ND		0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.23	ug/l	
205-99-2	Benzo(b)fluoranthene	ND		0.28	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND		0.30	ug/l	
207-08-9	Benzo(k)fluoranthene	ND		0.41	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND		0.27	ug/l	
85-68-7	Butyl benzyl phthalate	ND		0.16	ug/l	
91-58-7	2-Chloronaphthalene	ND		0.19	ug/l	
106-47-8	4-Chloroaniline	ND		0.19	ug/l	
218-01-9	Chrysene	ND		0.22	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND		0.12	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND		0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND		0.20	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND		0.25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	600	0.25	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND		0.21	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	600	0.27	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	75	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND		0.29	ug/l	
606-20-2	2,6-Dinitrotoluene	ND		0.44	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND		0.47	ug/l	

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 2 of 2

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 625 EPA 625		
Project:	Lab Animal Room Water		

ABN AP9 special List

CAS No.	Compound	Result	MCL	RL	Units	Q
53-70-3	Dibenzo(a,h)anthracene	ND		0.20	ug/l	
60-51-5	Dimethoate	ND		5.0	ug/l	
298-04-4	Disulfoton	ND		5.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND		0.12	ug/l	
117-84-0	Di-n-octyl phthalate	ND		0.16	ug/l	
84-66-2	Diethyl phthalate	ND		0.25	ug/l	
131-11-3	Dimethyl phthalate	ND		0.18	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	6.0	0.29	ug/l	
52-85-7	Famphur	ND		5.0	ug/l	
206-44-0	Fluoranthene	ND		0.11	ug/l	
86-73-7	Fluorene	ND		0.19	ug/l	
118-74-1	Hexachlorobenzene	ND	1.0	0.13	ug/l	
87-68-3	Hexachlorobutadiene	ND		0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	50	20	ug/l	
67-72-1	Hexachloroethane	ND		0.14	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND		0.20	ug/l	
78-59-1	Isophorone	ND		0.10	ug/l	
298-00-0	Methyl parathion	ND		5.0	ug/l	
91-20-3	Naphthalene	ND	300	0.14	ug/l	
98-95-3	Nitrobenzene	ND		0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND		0.44	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND		0.33	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND		0.16	ug/l	
56-38-2	Parathion	ND		10	ug/l	
85-01-8	Phenanthrene	ND		0.15	ug/l	
298-02-2	Phorate	ND		5.0	ug/l	
129-00-0	Pyrene	ND		0.19	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	9.0	0.16	ug/l	
297-97-2	Thionazin	ND		5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		15-93%
4165-62-2	Phenol-d5	11%		10-76%
118-79-6	2,4,6-Tribromophenol	80%		38-144%
4165-60-0	Nitrobenzene-d5	100%		43-126%
321-60-8	2-Fluorobiphenyl	94%		38-130%
1718-51-0	Terphenyl-d14	110%		24-155%

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 508 EPA 508		
Project:	Lab Animal Room Water		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX20502.D	1	05/30/01	KLS	05/27/01	OP9477	GXX402
Run #2	CD49493.D	1	06/05/01	LLP	05/27/01	OP9477	GCD1882

Pesticide/PCB PPL List

CAS No.	Compound	Result	MCL	RL	Units	Q
309-00-2	Aldrin	ND		0.0075	ug/l	
319-84-6	alpha-BHC	ND		0.0055	ug/l	
319-85-7	beta-BHC	ND		0.0049	ug/l	
319-86-8	delta-BHC	ND		0.0075	ug/l	
58-89-9	gamma-BHC (Lindane)	ND	0.20	0.0055	ug/l	
12789-03-6	Chlordane	ND	0.50	0.19	ug/l	
60-57-1	Dieldrin	ND		0.0065	ug/l	
72-54-8	4,4'-DDD	ND		0.014	ug/l	
72-55-9	4,4'-DDE	ND		0.012	ug/l	
50-29-3	4,4'-DDT	ND		0.010	ug/l	
72-20-8	Endrin	ND	2.0	0.0095	ug/l	
1031-07-8	Endosulfan sulfate	ND		0.0075	ug/l	
7421-93-4	Endrin aldehyde	ND		0.0080	ug/l	
959-98-8	Endosulfan-I	ND		0.0050	ug/l	
33213-65-9	Endosulfan-II	ND		0.0075	ug/l	
76-44-8	Heptachlor	ND	0.40	0.0075	ug/l	
1024-57-3	Heptachlor epoxide	ND	0.20	0.0060	ug/l	
72-43-5	Methoxychlor	ND	40	0.049	ug/l	
8001-35-2	Toxaphene	ND	3.0	0.34	ug/l	
12674-11-2	Aroclor 1016	ND ^a	0.50	0.24	ug/l	
11104-28-2	Aroclor 1221	ND ^a	0.50	0.090	ug/l	
11141-16-5	Aroclor 1232	ND ^a	0.50	0.12	ug/l	
53469-21-9	Aroclor 1242	ND ^a	0.50	0.30	ug/l	
12672-29-6	Aroclor 1248	ND ^a	0.50	0.22	ug/l	
11097-69-1	Aroclor 1254	ND ^a	0.50	0.11	ug/l	
11096-82-5	Aroclor 1260	ND ^a	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	82%	81%	66-121%
877-09-8	Tetrachloro-m-xylene	80%	89%	66-121%
2051-24-3	Decachlorobiphenyl	79%	98%	61-131%
2051-24-3	Decachlorobiphenyl	76%	103%	61-131%

(a) Result is from Run# 2

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ND = Not detected

J = Indicates an estimated value

MCL = Maximum Contamination Level (NJAC 7:10-1 11/96) B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	SW846 8151 SW846 3510C		
Project:	Lab Animal Room Water		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF32253.D	1	05/25/01	YYX	05/24/01	OP9472	GEF1846
Run #2							

Herbicide List

CAS No.	Compound	Result	MCL	RL	Units	Q
94-75-7	2,4-D	ND	70	0.50	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	50	0.10	ug/l	
93-76-5	2,4,5-T	ND		0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	85%		57-158%
19719-28-9	2,4-DCAA	88%		57-158%

ND = Not detected

MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Project:	Lab Animal Room Water		

Metals Analysis

Analyte	Result	MCL	RL	Units	DF	Prep	Analyzed By	Method
Antimony	<0.0050	0.0060	0.0050	mg/l	1	06/07/01	06/07/01 JDM	EPA 200.9
Arsenic	<0.0050	0.050	0.0050	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Beryllium	<0.0030	0.0040	0.0030	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Cadmium	<0.0040	0.0050	0.0040	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Calcium	49.6		5.0	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Chromium	<0.010	0.10	0.010	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Copper	0.097	1.3	0.025	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Lead	<0.0030	0.015	0.0030	mg/l	1	05/24/01	05/24/01 JDM	EPA 200.9
Magnesium	26.7		5.0	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Manganese	<0.015	0.050	0.015	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Mercury	<0.00020	0.0020	0.00020	mg/l	1	06/01/01	06/04/01 RP	EPA 245.1
Nickel	<0.040		0.040	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Selenium	<0.0050	0.050	0.0050	mg/l	1	05/25/01	05/25/01 JDM	EPA 200.9
Silver	<0.010	0.10	0.010	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7
Thallium	<0.0020	0.0020	0.0020	mg/l	1	06/13/01	06/15/01 JDM	EPA 200.9
Zinc	0.040	5.0	0.020	mg/l	1	05/31/01	05/31/01 LH	EPA 200.7

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RL = Reporting Limit
MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSIS (CONT'D)

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE 106	Date Sampled:	05/22/01
Lab Sample ID:	E91651-1	Date Received:	05/22/01
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Project:	Lab Animal Room Water		

General Chemistry

Analyte	Result	MCL	Units	DF	Analyzed By	Method
Florescent Pseudomonas						
Florescent Pseudomonads	0		col/ml	1	05/23/01 MJC	ACCUTEST
Coliform, Fecal	0		col/100ml	1	05/22/01 MJC	SM18 9222D
Coliform, Total	NEGATIVE	0		1	05/22/01 MJC	SM18 9223B
Cyanide	<0.010	0.20	mg/l	1	05/24/01 AMS	EPA 335.4
Hardness, Total	235		mg/l	1	05/31/01 KY	EPA 130.2
Nitrogen, Ammonia	0.17		mg/l	1	05/26/01 JK	EPA350.1, SM4500NH3H
Phenols	<0.050		mg/l	1	05/25/01 JK	EPA 420.2
Plate Count, Total	0		CFU/ml	1	05/23/01 MJC	SM18 9215B
Solids, Total Suspended	<4.0		mg/l	1	05/23/01	EPA 160.2

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MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)