ABSTRACT

The developmental toxicity of gasoline with ETBE (ethyl tert butyl ether) vapor condensate 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/m^3 in air. The animals were exposed daily for six hours from Gestation Day (GD) 5 through GD 20. There were signs of slight maternal toxicity early in the exposure period as indicated by statistically significant decreases in body weight change in the 20,000 mg/m^3 group for the GD 8–11 interval. Statistically significant decreases in food consumption also were evident at the GD 8-11 interval for the 10,000 and 20,000 mg/m^3 target concentration groups and at the GD 11-14, and GD 5-20 intervals for the 20,000 mg/m^3 target concentration group. However, no statistically significant decreases in body weights were noted at any interval in any treatment group. There were no statistically significant differences for uterine implantation data, external, visceral, and skeletal observations. Thus, exposure to gasoline with ETBE vapor condensate at a target concentration of 20,000 mg/m^3 caused slight maternal toxicity but not developmental toxicity. Therefore the No Observable Adverse Effect Level for this study was 10,000 mg/m^3 for maternal toxicity and 20,000 mg/m^3 for developmental toxicity.

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FINAL REPORT

PROJECT NUMBER: 171634

TEST SUBSTANCE: GASOLINE WITH ETBE VAPOR CONDENSATE
(MRD-00-716)

WHOLE-BODY INHALATION DEVELOPMENTAL TOXICITY STUDY IN RATS WITH GASOLINE WITH ETBE VAPOR CONDENSATE (MRD-00-716)

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

08TP 19

STUDY COMPLETION DATE: December 3, 2008

APPROVAL SIGNATURES

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

Oct 3, 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, 40 CFR, 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.

Water and feed analyses were not performed in a GLP compliant laboratory.

These minor deviations from the EPA Good Laboratory Practice Standards had no adverse effect on the integrity or results of the study.

G. W. Trimmer, B.A.
Study Director

3/DEC/08
Date

T.M. Gray, M.S. D.A.B.T.
Sponsor

10/1/08
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.
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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: 171634

TEST SUBSTANCE: MRD-00-716

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.

Study Phase Inspected	Date(s) of Inspection	Reported to Study Director	Reported to Management
Protocol	05 Nov 01	05 Nov 01	06 Nov 01, 05,09 Apr 02
Allocation/"Weight" Sort	26 Apr 02	29 Apr 02	09,22 May 02
Daily/Monthly Watchdog Procedures	06 May 02	07 Aug 02	08,09 Aug 02
In-chamber Clinical Observations	14 May 02	14 May 02	02,04 Oct 02
Uterus Staining	16 May 02	16 May 02	21 May 02
Skeletal Examination	28 Jun 02	08 Jul 02	09,11 Jul 02
Final Report	28 Aug- 01 Oct 02	01 Oct 02	10,16 Jan 07
Historical Control Data	31-Oct-04 Nov 02	07 Nov 02	10,16 Jan 07
Second Review of Final Report	27 Nov 06, 07,08,12,28 Dec 06, 09 Jan 07	09 Jan 07	20,25 Jan 07
Third Review of Final Report	18,21 Apr 08	21 Apr 08	24 Apr 08
Fourth Review of Final Report	17 Sep 08	19 Sep 08	23-Sep-08 07-Oct-08

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

Robert Pristas, M.S.
Quality Assurance Unit Coordinator

6 Nov 08
Date

Section 1

SUMMARY

This study was conducted to evaluate the potential developmental toxicity of the test substance, Gasoline with ETBE Vapor Condensate (GEVC). GEVC was administered via whole-body inhalation exposure to pregnant rats during the period of major organogenesis and fetal growth. GEVC was administered by whole-body inhalation exposure to 25 confirmed-mated Crl:CD®(SD)IGSBR female rats at target concentrations of 0 (air control), 2000, 10,000, and 20,000 mg/m^3 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 CO_2 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 evidence of slight maternal toxicity in this study at the target concentration of 20,000 mg/m^3. A statistically significant decrease in body weight change was evident in the 20,000 mg/m^3 target concentration group for the GD 8–11 interval. Statistically significant decreases in food consumption also were evident at the GD 8-11, GD 11-14, and GD 5-20 intervals for the 20,000 mg/m^3 target concentration group. No statistically significant decreases in body weights were noted at any interval in any treatment group. The only evidence of maternal toxicity at the 10,000 mg/m^3 target concentration was a statistically significant decrease in food consumption on GD 8-11; this was not considered clear evidence of maternal toxicity, since no other time intervals were significantly affected and since there was no significant effect on maternal body weight or body weight gain at any time interval. All dams survived to scheduled terminal sacrifice on GD 21. At the GD 21 cesarean section, two 2000 mg/m^3 target concentration animals, one animal in the 10,000 mg/m^3 target concentration group, and one animal in the 20,000 mg/m^3 target concentration group were found to be not pregnant (*i.e.* no evidence of implantation sites).

All animals were free of clinical or postmortem observations attributable to treatment with GEVC.

SUMMARY (CONT'D)

There were no treatment-related statistically significant differences between the control and the GEVC treated groups for uterine implantation data, external observations, visceral and skeletal observations.

In conclusion, administration of GEVC to rats by whole-body inhalation exposure during the period of organogenesis and fetal growth produced signs of slight maternal toxicity during the early period of dosing at the target concentration of 20,000 mg/m^3 as indicated by decreased body weight change and decreased food consumption. There were no treatment related signs of toxicity in the fetuses.

Therefore, the No Observable Adverse Effect Level for maternal toxicity was the target concentration of 10,000 mg/m^3 and the No Observable Adverse Effect Level for developmental toxicity in this study was established at the target concentration of 20,000 mg/m^3.

Section 2

INTRODUCTION

This study was conducted to evaluate the developmental toxicity of Gasoline with ETBE Vapor Condensate (MRD-00-716) administered 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)

April 12, 2002

EXPERIMENTAL START DATE

April 27, 2002

EXPERIMENTAL TERMINATION DATE

July 19, 2002

INLIFE TEST PERIOD

April 22, 2002 to May 22, 2002

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.

INTRODUCTION (CONT'D)

JUSTIFICATION OF DOSING ROUTE

Exposure by inhalation is a likely route of human exposure.

JUSTIFICATION OF DOSE SELECTION

The high dose of 20,000 mg/m^3 was selected based on safety concerns as one-half of the Lower Explosive Limit. The low dose (2000 mg/m^3) 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 mid dose (10,000 mg/m^3) was selected as the approximate mid point between the 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. 40 CFR, Part 79.60, 1994.

EPA, United States Environmental Protection Agency, Vehicle Emissions Inhalation Exposure Guideline. 40 CFR, Part 79.61, 1994.

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.

This study was conducted in accord 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, Proposal for Updating Guideline 414, Jan 2001.

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-00-716
Sponsor Identification:	Gasoline with ETBE Vapor Condensate
Supplier:	Chevron Research and Technology Company
Lot #:	API 01-05
Description:	Colorless liquid
Storage Condition:	Ambient outdoor conditions under nitrogen

Date Received:	Container numbers[a]:	Expiration Date:
September 17, 2001	1A (2[b]), 2A (2[b]), 3A (2[b]), 4A (2[b])	September 30, 2006

[a] - Numbers in () are the Supplier's tank identification numbers
[b] - Large cylinder number

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.

The documentation of methods of synthesis, fabrication, and/or derivation of the test fuel were the responsibility of the Sponsor. This was not completed when the study initiated, but is currently with 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 five major components of the test atmosphere and were 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 until after the end of the exposure phase of the study and then transferred to the analytical chemistry laboratory. The samples were desorbed 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 from the control and 20,000 mg/m^3 target concentration during the chamber trials. The sample was 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 for the aerodynamic diameter, geometric standard deviation, or the estimated percents of the aerosol less than or equal to 1, 10, and 15 microns in size.

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 VAF/Plus
Supplier:	Charles River Laboratories, Inc. Raleigh, North Carolina

Animal Receipt Information (Females)

Receipt Date:	April 2, 2002
Shipping Reference Number:	70223589

Quarantine and Acclimation Period

25 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; the additional 50 females were ordered to assure there would be 100 mated females and to make the mating as efficient as possible without exceeding the necropsy capacity of the laboratory.

50 sexually mature males (12-13 weeks old at the initiation of mating) received for mating purposes from a different colony than the females to assure they were not siblings. These rats were also used for mating with at least one other study. The males also were received on April 2, 2002.

Age at Initiation of Gestation (Designated GD 0)

Females: 14 – 15 weeks

Weight at Initiation of Gestation (Designated GD 0)

Females: 240 to 299 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 Nutrition International, LLC (formerly PMI Feeds, Inc.) Richmond, Indiana
Analysis:	Performed by PMI Nutrition International, LLC. Copies of the feed analyses are maintained in the EMBSI Toxicology Laboratory. 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 Clinton Facility De-ionized Water System.
Analysis:	Periodic analysis is the responsibility of the testing laboratory. A copy of the results is maintained at the testing laboratory. 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:	66.5 to 71.9 degrees Fahrenheit
Humidity:	34.7 to 97.6 percent relative humidity (see Protocol Exceptions)
Lighting:	Approximately 12 hours light (0600 to 1800 hours) and 12 hours dark (1800 to 0600 hours) by automatic timer.

A computerized system monitored the temperature, humidity, and lighting continuously.

Chambers

Temperature:	64 to 78 degrees Fahrenheit (see Protocol Exceptions and Appendix I)
Humidity:	42 to 100 percent relative humidity (see Protocol Exceptions and Appendix I)

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

Light Intensity

Animal Room Light Intensity:	3.8 to 8.9 foot-candles
Chamber Room Light Intensity:	28.9 to 62.0 foot-candles

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 room. Light intensity was measured in the animal room in a cage approximately three feet above the floor level. In the chamber room the light intensity was measured three feet above floor level in the approximate center of each generation room.

TEST SYSTEM (CONT'D)

Environmental Conditions (cont'd)

Chamber Noise Levels and Oxygen Levels

Noise Level: 72.2 to 80.2 db
Oxygen Level: 19.7 to 20.7%
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). 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 (WEIGHT) 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 M^3-inhalation chambers that were operated under dynamic conditions. The exposure period was six 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 are stainless steel and glass and have a total volume of approximately 1.0 M^3. They operated at a flow rate (approximately 12 air changes/hour) sufficient to ensure timely equilibration. 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 generally were within ± 10% of the target exposure levels with the exceptions listed in the Protocol Exceptions section.

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. Additionally, group observations of the animals for mortality and obvious toxic signs while in the chambers were recorded at 15, 30, 45, and 60 minutes after initiation of the exposure and then hourly during each exposure.

Euthanasia and Cesarean Section

Euthanasia of the dams was by CO_2 asphyxiation followed by exsanguination. A gross necropsy was performed on all confirmed-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 and subsequent fetal evaluations 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.

Prior to visceral examinations any live fetuses were euthanized by a subcutaneous injection with sodium pentobarbital. 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.

Fetus #2 of Dam IGL353 in the 2000 mg/m3 target concentration group was a conjoined twin that was examined for both visceral and skeletal anomalies.

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 were maintained in the EMBSI Toxicology Laboratory Archives until they were returned to the Sponsor.

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.

EXPERIMENTAL DESIGN (CONT'D)

Statistical Analysis (Cont'd)

Continuous data were 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.

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. However, the 5% level of significance was considered statistically significant for these analyses. The 1% level of significance was reported as additional information.

The following data were 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.

EXPERIMENTAL DESIGN (CONT'D)

Statistical Analysis (Cont'd)

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).

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
Combined Malformations and Variations for Dead Fetuses
Malformations for All Fetuses
Malformations for Alive Fetuses
Malformations for Dead Fetuses
Variations for All Fetuses
Variations for Alive Fetuses
Variations for Dead Fetuses
Combined – All Fetuses with Supernumerary Ribs
Combined – All Fetuses with Hypoplastic Sternabrae
Combined – All Fetuses with Hypoplastic Vertebral Centra

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 dams survived to scheduled terminal sacrifice on GD 21. At the GD 21 cesarean section two 2000 mg/m^3 target concentration animals, one animal in the 10,000 mg/m^3 target concentration group and one animal in the 20,000 mg/m^3 target concentration group were found to be not pregnant (*i.e*. no evidence of implantation sites).

There were no clinical signs indicative of maternal toxicity attributable to the test material. 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 trunk for three control dams and one dam from the 20,000 mg/m^3 target concentration group, and alopecia of the extremities was evident in one dam for the 10,000 mg/m^3 target concentration group. Clinical signs were not evident in the 2000 mg/m^3 target concentration dams.

GESTATION BODY WEIGHT

Mean Gestation Body Weight and Body Weight Change: Appendix C
Individual Gestation Body Weight and Body Weight Change: Appendix C

A statistically significant decrease in body weight change was evident in the 20,000 mg/m^3 target concentration group for the GD 8-11 interval. However, no statistically significant decreases in body weights were noted at any interval in any treatment group compared to controls. Additionally, statistically significant linear trends (decreases) were detected in body weight change for the GD 5-8, GD 8-11, GD 11-14, and GD 0-21C intervals and in the body weight for GD 14. No other differences in body weight change were evident.

GESTATION FOOD CONSUMPTION

Mean Gestation Food Consumption: Appendix D
Individual Gestation Food Consumption: Appendix D

Statistically significant decreases in food consumption were evident at the GD 8-11 interval for the 10,000 and 20,000 mg/m^3 target concentration groups and at the GD 11-14, and GD 5-20 intervals for the 20,000 mg/m^3 target concentration group. Additionally, statistically significant linear trends (decreases) were detected in food consumption for the GD5-8, GD 8-11, GD 11-14, GD 17-20, GD 5-20, and GD 0-21 intervals. No other differences in food consumption were evident.

GROSS POSTMORTEM OBSERVATIONS

Incidence of Gross Postmortem Observations: Appendix E
Individual Gross Postmortem Observations: Appendix E

The gross postmortem examination of the dams revealed a diverticulum of the right horn of the uterus that was filled with liquid for one control dam. Alopecia of the trunk was evident for three control dams and one 20,000 mg/m^3 target concentration 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.

FETAL BODY WEIGHT

Mean Fetal Body Weight: Appendix G
Individual Fetal Body Weight: Appendix G
Statisticians Report: Appendix K

There were no statistically significant decreases in mean fetal body weight between the control and the treated groups.

FETAL OBSERVATIONS

Incidence of Fetal Observations: Appendix H
Individual Fetal Observations: Appendix H
Statistician's Report: Appendix K

There were no statistically significant or treatment-related differences between the control and the treated groups for visceral and skeletal variations and/or malformations. There was a statistically significant decrease in the incidence of external variations and malformations in the 10,000 and 20,000 mg/m^3 target exposure groups. These decreases were not considered indicative of developmental toxicity produced by exposure to GEVC.

FETAL OBSERVATIONS (CONT'D)

External Observations

The incidences of external observations are presented in Appendices H and K. No malformations or variations were observed during the external examination in the 10,000 and 20,000 mg/m^3 target exposure groups. There was a statistically significant decrease in the incidence of external variations and malformations in the 10,000 and 20,000 mg/m^3 target exposure groups compared to controls; these decreases were not considered indicative of developmental toxicity produced by exposure to GEVC. At the 2000 mg/m^3 target concentration, the only external malformation was a conjoined twin in one litter (Dam IGL353, Fetus #2). Among the controls, there were two fetuses with malrotated hindpaw, one fetus with domed head, and one dead fetus with multiple external malformations; four control litters were affected.

Visceral Observations

The incidences of visceral observations are presented in Appendices H and K. The incidences of visceral malformations and variations did not differ significantly from the control incidences. Fetus #2 of Dam IGL353 in the 2000 mg/m3 target concentration group was a conjoined twin that had shared organs, small spleen, cecum not evident, small left ventricle, a duplicate tongue, two aortas, elongated innominate, supernumerary lobe of the lung, malpositioned carotid artery, malpositioned subclavian artery, and malpositioned pulmonary artery. Visceral observations in the other fetuses in the study were minimal and were limited to low incidences of umbilical artery arises from left, hydroureter, hydronephrosis, and retinal fold. Single incidences of misshapen spleen, large atrial chamber, absent innominate artery, open eye, umbilical artery aneurysm, malpositioned carotid artery, and malpositioned subclavian artery were observed during the visceral examinations.

Skeletal Observations

The incidences of skeletal observations are presented in Appendices H and K. The incidences of skeletal malformations and variations did not differ significantly from the control incidences. The most frequently noted skeletal ossification variants were rudimentary lumbar ribs, bifid centra of the thoracic vertebrae, dumbbell-shaped thoracic centra anlage, and advanced ossification of the sternebrae.

EXPOSURE DATA AND CHAMBER CONDITIONS

Summary of Exposure Data: Appendix I
Analytical Chemistry Report – Appendix J

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 4-1:

Table 4-1 - Mean Exposure Concentrations (Analytical and Nominal)

Target concentration	2000 mg/m^3		10,000 mg/m^3		20,000 mg/m^3	
	Analytical	Nominal	Analytical	Nominal	Analytical	Nominal
Mean	1988	1999	10327	10379	20541	19469
S.D.	87.7	124.2	280.2	293.4	518.3	314.5
Minimum	1733	1736	9762	9388	19785	18799
Maximum	2179	2375	10736	10789	21646	20071

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 4-2.

Table 4-2 - Summary of Chamber Uniformity

Target concentration	2000 mg/m^3	10,000 mg/m^3	20,000 mg/m^3
Mean	2058	10611	21233
S.D.	126.86	206.70	248.71
CV (%)	6.16	1.95	1.17
Minimum	1886	10373	20832
Maximum	2270	10997	21550

S.D. - Standard deviation
CV - Coefficient of variation

The particle size determination for the control chamber and 20,000 mg/m^3 target concentration chamber detected particles at a level of 0 and 20 mg/m^3 for each chamber, respectively. These particles were judged to be ambient background particles (*e.g.* animal dander) and not from the generation of the test substance.

The oxygen levels in the chambers ranged from 19.7 to 20.7% at the intervals when they were monitored. The noise level in the chambers ranged from 72.2 to 80.2 db. The light intensity in the chamber room ranged from 28.9 foot-candles to 62 foot candles.

The analyses of the chamber atmospheres by the analytical chemistry group revealed that the concentrations of the components of GEVC were stable over the course of the study. The components present in the highest concentrations in GEVC were isopentane (~32%), ETBE (~17%), n-pentane (~10%), n-butane (~9.5%), and 2-methylpentane (~5%). Each of the remaining components comprised less than 5% of the mixture (See Appendix J for the results of the analyses).

DISCUSSION

There were signs of slight maternal toxicity early in the exposure period as indicated by a statistically significant decrease in body weight change in the 20,000 mg/m^3 target concentration group for the GD 8–11 interval. Statistically significant decreases in food consumption also were evident at the GD 8-11, GD 11-14, and GD 5-20 intervals for the 20,000 mg/m^3 target concentration group. However, no statistically significant decreases in body weights were noted at any interval in any treatment group. The only evidence of maternal toxicity at the 10,000 mg/m^3 target concentration was a statistically significant decrease in food consumption on GD 8-11. Based on the lack of statistically significant decreases in mean body weight and mean body weight change for any interval in the 10,000 mg/m^3 target concentration group, it would appear that the decrease in food consumption during a single interval in the 10,000 mg/m^3 target concentration group was not biologically significant. Conversely, the statistically significant decreased food consumption in the 20,000 mg/m^3 target concentration group was associated with a decrease in the body weight change in the GD 8-11 interval and was considered biologically significant.

There were no statistically significant differences attributable to exposure for uterine implantation data, and external, visceral, and skeletal observations.

In conclusion, administration of GEVC to rats by whole-body inhalation exposure during the period of organogenesis and fetal growth at a target concentration of 20,000 mg/m^3 target concentration caused slight maternal toxicity as indicated by decreased food consumption and decreased body weight change. No developmental toxicity attributable to the test material was observed at any level of exposure to GEVC.

Therefore, the No Observable Adverse Effect Level for maternal toxicity was 10,000 mg/m^3 target concentration and the No Observable Adverse Effect Level for developmental toxicity in this study was established at the target concentration of 20,000 mg/m^3.

PROTOCOL EXCEPTIONS

ANIMAL ROOM HUMIDITY; The animal room humidity was outside the protocol-defined ranged at the following times:

Date	Humidity (%RH)	Alarm Time	Time resolved
May 7, 2002	71.3	16:01	Immediately
May 13, 2002	71.9	15:09	15:28
May 14, 2002	97.6	12:47	13:00

The causes of the excursions on May 7 and May 13, 2002 were unknown. The excursion on May 14, 2002 was caused by the equilibration of a new humidity transmitter that was placed in the system to replace the existing transmitter.

These short excursions had no effect on the study results or integrity.

MEAN CHAMBER CONCENTRATION: The mean chamber concentration for the 2000 mg/m^3 target concentration treatment group chamber was 1733 on April 27, 2002. This deviation was due to problems with the rotameter.

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/m^3 and the 20,000 mg/m^3 target concentration chambers from exceeding the protocol-defined range. The cooler room air resulted in three instances of the temperature in the control chamber being below the protocol-defined range and numerous instances of the temperature in the treated group chambers exceeding the protocol-defined ranges early in the daily exposures. The decreased temperature also caused the humidity in the control chamber to be above the protocol-defined range on numerous occasions and also caused the humidity in the treated group chambers to be above the protocol-defined range early in the daily exposure periods on numerous occasions. The very high humidities noted early in the daily exposures were due to the chambers not being completely dry from the previous days cleaning. The individual temperature and humidity deviations are noted in Appendix I as bold italicized values.

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

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

Section 5

LIST OF ABBREVIATIONS

STATISTICAL SYMBOLS AND ABBREVIATIONS

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

LIST OF ABBREVIATIONS

UTERINE IMPLANTATION DATA ABBREVIATIONS

ABBREVIATION	PARAMETER
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	Fetuses with malformations
Var	Fetuses with variations
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 AND VISCERAL EXAMINATIONS

+ = No observable abnormalities
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

Visceral: 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)

Malformations are anomalies that will not allow the fetus to survive beyond parturition. Malformations are indicated by a capitalized footnote (e.g. "A").

Developmental variations are anomalies that will not affect the postnatal survival of the fetus. Developmental variations are indicated by a lower case footnote (e.g. "a").

Observations are anomalies that generally are non-specific anomalies such as stunted, pale coloration or discoloration of tissues, etc. They are indicated by an asterisk (e.g. "*").

Section 6

REFERENCES

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.

Chen, J.J., Gaylor, J.B. and Laborde, D.W. "Dose-response modeling of growth for developmental toxicity", Environmetrics, vol 7, pg 135-144, 1996.

Dunnett, C., New Tables for Multiple Comparisons with a Control, Biometrics 20, 1964, pp. 482-491.

EPA, United States Environmental Protection Agency, Good Laboratory Practices (GLP) Standards for Inhalation Exposure Health Effects Testing. 40 CFR, Part 79.60, 1994.

EPA, United States Environmental Protection Agency, Vehicle Emissions Inhalation Exposure Guideline. 40 CFR Part 79.61, 1994.

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.

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.

Hollander, M. and Wolfe, D.A. Nonparametric Statistical Methods, John Wiley and Sons, New York, 1973.

Little, Milliken, Stroup, and Wolfinger, "SAS System for Mixed Models", SAS Institute, Cary, NC, 1997, section 5.6.2, pg 203.

OECD, Organization for Economic Cooperation and Development, Guidelines for the Testing of Chemicals, Proposal for Updating Guideline 414, January 2001.

REFERENCES (CONT'D)

Ryan, L., "The use of generalized estimating equations for risk assessment in developmental toxicity", Risk Analysis, 12(3), pg 439-447, 1992.

SAS/STAT, V8.02, copyright © 1999-2001, SAS Institute, Inc., Cary, NC.

Snedecor, G.W., and Cochran, W.G., Statistical Methods, 8th ed., Iowa State University Press, Ames, Iowa, 1989.

Staples, R.E., Detection of Visceral Alterations in Mammalian Fetus, Teratology, 9:A-37, 1974.

Stuckhardt, J.L. and Poppe, S.M., Fresh Visceral Examination of Rat and Rabbit Fetuses Used in Teratogenicity Testing, Terato. Carcino. Mutagen., 4, 1984, pp. 181-188.

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 0 MG/M^3

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
IGL359F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL360F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL370F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL374F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL395F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL383F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL386F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL394F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL402F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL411F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL422F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL347F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL427F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL400F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL408F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL393F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL419F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL434F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL445F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL446F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL465F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL490F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL406F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL418F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL474F (21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 2000 MG/M^3

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
IGL346F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL361F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL376F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL381F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL405F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL382F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL390F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL358F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL398F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL350F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL353F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL420F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL435F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGL388F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL413F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL455F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGL414F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL433F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL441F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL457F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL466F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL475F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL488F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL432F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL477F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 10,000 MG/M^3

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
IGL379F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL389F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL391F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL352F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL355F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL417F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL378F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL380F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL348F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL430F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL409F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL421F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL385F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGL423F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL440F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL399F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL452F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL436F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL454F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL461F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL469F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL470F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL473F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL407F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL442F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P

APPENDIX A - SURVIVAL BAR GRAPH
TARGET DOSE: 20,000 MG/M^3

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
IGL364F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL367F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL368F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL375F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL363F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL373F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL397F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL357F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL369F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL404F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL365F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL366F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL372F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL396F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL371F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL410F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL415F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL444F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL449F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL451F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=N
IGL458F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL471F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL424F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL428F	(21)	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=	=P
IGL439F	(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	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
2000 MG/M^3	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	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
NO OBSERVABLE ABNORMALITIES																						
0 MG/M^3	25	25	25	25	25	25	24	24	23	23	23	22	22	22	22	24	23	22	22	22	22	22
2000 MG/M^3	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	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	23	23	23
20,000 MG/M^3	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23
ALOPECIA																						
0 MG/M^3	0	0	0	0	0	0	1	1	2	2	2	3	3	3	3	1	2	3	3	3	3	3
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	1	1	1
20,000 MG/M^3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

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

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 0 MG/M^3

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
IGL359F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL360F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL370F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL374F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL395F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-
	ALOPECIA TRUNK	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	-	+	+	+	+	+	+
IGL383F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL386F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL394F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ALOPECIA TRUNK	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL402F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL411F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL422F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL347F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL427F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 0 MG/M^3 (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
IGL400F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL408F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL393F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL419F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL434F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL445F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL446F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL465F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL490F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL406F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL418F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL474F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	+	+	-	-	-	-	-
	ALOPECIA TRUNK	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGETE DOSE)
DOSE: 2000 MG/M^3

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
IGL346F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL361F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL376F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL381F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL405F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL382F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL390F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL358F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL398F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL350F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL353F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL420F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL435F	ANIMAL NOT PREGNANT																						

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 2000 MG/M^3 (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
IGL388F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL413F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL455F	ANIMAL NOT PREGNANT																						
IGL414F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL433F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL441F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL457F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL466F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL475F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL488F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL432F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL477F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 10,000 MG/M^3

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
IGL379F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL389F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL391F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL352F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL355F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL417F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL378F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL380F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL348F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL430F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL409F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL421F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL385F	ANIMAL NOT PREGNANT																						

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 10,000 MG/M^3 (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
IGL423F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL440F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL399F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL452F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL436F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL454F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL461F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL469F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL470F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL473F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL407F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
	ALOPECIA EXTREMITIES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
IGL442F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 20,000 MG/M^3

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
IGL364F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL367F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL368F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL375F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL363F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL373F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL397F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL357F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL369F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL404F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL365F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL366F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL372F	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

APPENDIX B - GESTATION OBSERVATIONS
(INDIVIDUAL GESTATION OBSERVATIONS BY TARGET DOSE)
DOSE: 20,000 MG/M^3 (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
IGL396F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL371F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL410F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL415F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL444F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL449F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL451F																							
	ANIMAL NOT PREGNANT																						
IGL458F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL471F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL424F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL428F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IGL439F																							
	NO OBSERVABLE ABNORMALITIES	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-
	ALOPECIA TRUNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+

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)

	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	UTERUS	GD 21C
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	270	299.2	305.4	317.2	330.6	358.8	404.2	420.9	104.8	315.5
STD.DEV.	14.6	16.7	18.1	19.3	21.4	27.1	33.1	35.7	21.9	20.8
(N)	25	25	25	25	25	25	25	2	25	24
2000 MG/M^3										
MEAN	267	292.3	300	311.8	324.5	354.6	403.8	421.7	106.4	315.2
STD.DEV.	13.7	19.6	19.1	19.3	21.5	23.7	28.1	30	22.1	22.9
(N)	23	23	23	23	23	23	23	23	23	23
10,000 MG/M^3										
MEAN	270.2	299.1	302.8	312.7	325	352	398.8	418.7	100	318.7
STD.DEV.	13.1	14.8	14.5	16.2	17.6	23.4	32.5	32.8	26.8	16.7
(N)	24	24	24	24	24	24	24	24	24	24
20,000 MG/M^3										
MEAN	269.9	295.5	298.9	307.3	317.6	347.5	394.8	413.5	104.8	308.8
STD.DEV.	13.7	19.1	18.5	19.1	19.3	20.8	22.9	26.9	14.9	20.7
(N)	24	24	24	24	24	24	24	24	24	24

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)

	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
FEMALE	A-L-	A-L	AL+	A-L	A-L-	K-J-	K-J-	A-L-	A-L-	A-L
0 MG/M^3										
MEAN	29.2	6.2	11.8	13.4	28.2	45.4	17.4	104.5	151.3	46.0
STD.DEV.	6.5	5.2	4.6	4.7	9	10	9.5	91.0	24.9	11.7
(N)	25	25	25	25	25	25	24	25	24	24
2000 MG/M^3										
MEAN	25.3	7.7	11.8	12.7	30.1	49.2	17.9	129.3	154.7	48.2
STD.DEV.	9.9	5.9	4.4	4.5	8.2	8.6	6.4	23.6	23.3	15.2
(N)	23	23	23	23	23	23	23	23	23	23
10,000 MG/M^3										
MEAN	28.9	3.7	10	12.3	27.1	46.8	19.9	119.6	148.5	48.5
STD.DEV.	7.3	6.2	5.8	4	8.1	13.1	5.3	25	28.5	13.3
(N)	24	24	24	24	24	24	24	24	24	24
20,000 MG/M^3			*							
MEAN	25.6	3.4	8.4	10.4	29.9	47.3	18.8	118	143.6	38.9
STD.DEV.	9.9	7.7	3.4	3.8	6.4	6.2	5.8	17.1	18.8	13.9
(N)	24	24	24	24	24	24	24	24	24	24

NOTE: GD - GESTATION DAY
21C (DAY 21 CORRECTED) = DAY 21 BODY WEIGHT - UTERINE WEIGHT

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 0 MG/M^3

ANIMAL NUMBER	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	GD 21C	UTERINE WEIGHT
IGL359F	257	280	283	282	294	328	372	406	307	99
IGL360F	270	297	297	308	323	351	401	417	309	108
IGL370F	268	308	312	327	343	373	396	403	289	114
IGL374F	258	282	280	293	303	320	364	380	281	99
IGL395F	277	303	306	318	337	370	422	445	320	125
IGL383F	271	293	301	315	333	371	415	444	325	119
IGL386F	249	274	285	298	312	337	391	403	297	106
IGL394F	267	296	299	317	334	369	409	431	311	120
IGL402F	274	308	309	323	336	374	431	460	331	129
IGL411F	269	300	307	322	337	373	408	427	327	100
IGL422F	269	295	306	314	331	366	421	425	312	113
IGL347F	290	321	332	343	359	384	434	448	343	105
IGL427F	241	276	283	292	296	295	316	309	294	15
IGL400F	275	303	313	329	350	392	450	460	330	130
IGL408F	291	313	335	346	360	400	450	474	364	110
IGL393F	250	281	288	294	305	325	367	393	301	92
IGL419F	258	280	290	295	310	331	380	398	291	107
IGL434F	299	326	338	344	366	395	457	476	349	127
IGL445F	253	285	284	300	311	335	381	402	298	104
IGL446F	271	294	298	309	313	340	379	405	304	101
IGL465F	291	341	344	355	366	397	452	454	343	111
IGL490F	280	314	316	337	352	377	421	B	398	92
IGL406F	288	316	321	335	341	363	411	422	325	97
IGL418F	263	298	307	320	332	355	389	409	316	93
IGL474F	271	295	301	315	322	350	389	411	306	105

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 2000 MG/M^3

ANIMAL NUMBER	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	GD 21C	UTERINE WEIGHT
IGL346F	276	300	313	326	338	359	406	427	323	104
IGL361F	265	296	300	308	325	351	407	421	309	112
IGL376F	258	266	269	281	296	331	375	390	290	100
IGL381F	261	287	284	295	304	321	366	380	294	86
IGL405F	255	288	289	298	317	352	403	430	307	123
IGL382F	267	293	304	318	333	367	423	444	324	120
IGL390F	253	282	293	301	307	337	378	397	297	100
IGL358F	273	296	300	314	328	366	423	432	300	132
IGL398F	243	259	283	292	304	344	398	410	289	121
IGL350F	270	279	288	309	320	352	403	426	308	118
IGL353F	292	331	333	347	369	413	472	494	365	129
IGL420F	261	296	308	323	342	366	419	431	333	98
IGL435F NP										
IGL388F	283	318	322	334	347	373	421	438	334	104
IGL413F	261	278	290	294	303	337	382	396	292	104
IGL455F NP										
IGL414F	270	282	298	305	316	348	393	409	301	108
IGL433F	261	288	291	314	321	353	412	437	320	117
IGL441F	287	312	320	325	343	372	411	428	317	111
IGL457F	264	279	281	293	298	316	360	388	305	83
IGL466F	272	298	307	320	330	367	426	447	327	120
IGL475F	291	341	349	358	370	385	415	419	376	43
IGL488F	240	271	274	288	295	316	348	358	298	60
IGL432F	280	304	315	329	344	388	449	477	339	138
IGL477F	258	279	290	300	313	341	397	419	302	117

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 10,000 MG/M^3

ANIMAL NUMBER	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	GD 21C	UTERINE WEIGHT
IGL379F	275	300	299	311	331	365	421	443	320	123
IGL389F	277	306	301	332	346	382	439	461	330	131
IGL391F	279	312	308	321	328	364	416	438	337	101
IGL352F	249	284	288	294	302	324	370	390	282	108
IGL355F	255	299	299	307	314	345	400	421	304	117
IGL417F	275	316	319	325	347	374	431	457	336	121
IGL378F	278	303	315	319	332	360	400	415	321	94
IGL380F	250	275	286	296	308	336	390	409	304	105
IGL348F	275	299	297	308	318	341	391	407	307	100
IGL430F	260	282	289	292	302	314	333	344	309	35
IGL409F	291	327	331	340	350	380	418	437	335	102
IGL421F	255	277	286	295	307	330	374	392	298	94
IGL385F NP										
IGL423F	266	308	318	327	344	380	435	452	327	125
IGL440F	262	287	296	307	322	349	381	402	332	70
IGL399F	254	276	286	292	306	332	395	414	293	121
IGL452F	274	306	312	318	329	348	395	420	319	101
IGL436F	298	320	325	339	351	373	426	447	340	107
IGL454F	258	293	302	311	326	352	393	428	347	81
IGL461F	276	304	301	320	328	349	384	402	315	87
IGL469F	266	285	281	284	291	296	308	332	311	21
IGL470F	287	323	332	342	356	398	454	463	342	121
IGL473F	284	306	294	303	320	355	412	425	308	117
IGL407F	275	297	303	312	322	352	417	442	322	120
IGL442F	266	293	298	310	319	350	388	408	310	98

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT BY TARGET DOSE)
(GRAMS)
DOSE: 20,000 MG/M^3

ANIMAL NUMBER	GD 0	GD 5	GD 8	GD 11	GD 14	GD 17	GD 20	GD 21	GD 21C	UTERINE WEIGHT
IGL364F	271	291	291	298	311	337	394	410	287	123
IGL367F	257	303	298	309	323	356	406	420	314	106
IGL368F	287	314	317	330	341	373	415	435	325	110
IGL375F	269	300	293	303	312	337	384	405	320	85
IGL363F	257	274	283	292	299	319	348	357	305	52
IGL373F	260	280	273	280	287	316	359	375	282	93
IGL397F	280	302	298	306	315	345	396	417	299	118
IGL357F	267	302	296	308	321	344	386	402	305	97
IGL369F	254	284	285	298	309	336	382	399	298	101
IGL404F	251	279	283	292	302	331	382	398	294	104
IGL365F	255	269	275	277	290	320	373	388	278	110
IGL366F	271	289	296	300	311	345	389	410	298	112
IGL372F	287	312	315	318	332	370	419	435	325	110
IGL396F	274	278	290	301	319	360	406	423	316	107
IGL371F	277	303	301	309	318	346	395	422	315	107
IGL410F	256	285	292	294	307	335	391	405	300	105
IGL415F	264	281	307	312	325	360	408	431	307	124
IGL444F	293	331	329	339	354	375	421	444	339	105
IGL449F	283	306	320	326	339	371	426	445	332	113
IGL451F NP										
IGL458F	256	278	279	290	297	335	388	402	293	109
IGL471F	267	282	283	295	301	322	360	378	293	85
IGL424F	284	320	329	341	348	391	438	477	364	113
IGL428F	299	345	345	354	357	378	428	451	336	115
IGL439F	259	284	295	302	305	339	381	396	286	110

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)
DOSE: 0 MG/M^3

ANIMAL NUMBER	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
IGL359F	23	3	-1	12	34	44	34	126	149	50
IGL360F	27	0	11	15	28	50	16	120	147	39
IGL370F	40	4	15	16	30	23	7	95	135	21
IGL374F	24	-2	13	10	17	44	16	98	122	23
IGL395F	26	3	12	19	33	52	23	142	168	43
IGL383F	22	8	14	18	38	44	29	151	173	54
IGL386F	25	11	13	14	25	54	12	129	154	48
IGL394F	29	3	18	17	35	40	22	135	164	44
IGL402F	34	1	14	13	38	57	29	152	186	57
IGL411F	31	7	15	15	36	35	19	127	158	58
IGL422F	26	11	8	17	35	55	4	130	156	43
IGL347F	31	11	11	16	25	50	14	127	158	53
IGL427F	35	7	9	4	-1	21	-7	33	68	53
IGL400F	28	10	16	21	42	58	10	157	185	55
IGL408F	22	22	11	14	40	50	24	161	183	73
IGL393F	31	7	6	11	20	42	26	112	143	51
IGL419F	22	10	5	15	21	49	18	118	140	33
IGL434F	27	12	6	22	29	62	19	150	177	50
IGL445F	32	-1	16	11	24	46	21	117	149	45
IGL446F	23	4	11	4	27	39	26	111	134	33
IGL465F	50	3	11	11	31	55	2	113	163	52
IGL490F	34	2	21	15	25	44	C	C	C	C
IGL406F	28	5	14	6	22	48	11	106	134	37
IGL418F	35	9	13	12	23	34	20	111	146	53
IGL474F	24	6	14	7	28	39	22	116	140	35

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)
DOSE: 2000 MG/M^3

ANIMAL NUMBER	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
IGL346F	24	13	13	12	21	47	21	127	151	47
IGL361F	31	4	8	17	26	56	14	125	156	44
IGL376F	8	3	12	15	35	44	15	124	132	32
IGL381F	26	-3	11	9	17	45	14	93	119	33
IGL405F	33	1	9	19	35	51	27	142	175	52
IGL382F	26	11	14	15	34	56	21	151	177	57
IGL390F	29	11	8	6	30	41	19	115	144	44
IGL358F	23	4	14	14	38	57	9	136	159	27
IGL398F	16	24	9	12	40	54	12	151	167	46
IGL350F	9	9	21	11	32	51	23	147	156	38
IGL353F	39	2	14	22	44	59	22	163	202	73
IGL420F	35	12	15	19	24	53	12	135	170	72
IGL435F NP										
IGL388F	35	4	12	13	26	48	17	120	155	51
IGL413F	17	12	4	9	34	45	14	118	135	31
IGL455F NP										
IGL414F	12	16	7	11	32	45	16	127	139	31
IGL433F	27	3	23	7	32	59	25	149	176	59
IGL441F	25	8	5	18	29	39	17	116	141	30
IGL457F	15	2	12	5	18	44	28	109	124	41
IGL466F	26	9	13	10	37	59	21	149	175	55
IGL475F	50	8	9	12	15	30	4	78	128	85
IGL488F	31	3	14	7	21	32	10	87	118	58
IGL432F	24	11	14	15	44	61	28	173	197	59
IGL477F	21	11	10	13	28	56	22	140	161	44

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)
DOSE: 10,000 MG/M^3

ANIMAL NUMBER	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
IGL379F	25	-1	12	20	34	56	22	143	168	45
IGL389F	29	-5	31	14	36	57	22	155	184	53
IGL391F	33	-4	13	7	36	52	22	126	159	58
IGL352F	35	4	6	8	22	46	20	106	141	33
IGL355F	44	0	8	7	31	55	21	122	166	49
IGL417F	41	3	6	22	27	57	26	141	182	61
IGL378F	25	12	4	13	28	40	15	112	137	43
IGL380F	25	11	10	12	28	54	19	134	159	54
IGL348F	24	-2	11	10	23	50	16	108	132	32
IGL430F	22	7	3	10	12	19	11	62	84	49
IGL409F	36	4	9	10	30	38	19	110	146	44
IGL421F	22	9	9	12	23	44	18	115	137	43
IGL385F NP										
IGL423F	42	10	9	17	36	55	17	144	186	61
IGL440F	25	9	11	15	27	32	21	115	140	70
IGL399F	22	10	6	14	26	63	19	138	160	39
IGL452F	32	6	6	11	19	47	25	114	146	45
IGL436F	22	5	14	12	22	53	21	127	149	42
IGL454F	35	9	9	15	26	41	35	135	170	89
IGL461F	28	-3	19	8	21	35	18	98	126	39
IGL469F	19	-4	3	7	5	12	24	47	66	45
IGL470F	36	9	10	14	42	56	9	140	176	55
IGL473F	22	-12	9	17	35	57	13	119	141	24
IGL407F	22	6	9	10	30	65	25	145	167	47
IGL442F	27	5	12	9	31	38	20	115	142	44

APPENDIX C - GESTATION BODY WEIGHT AND BODY WEIGHT CHANGE
(INDIVIDUAL GESTATION BODY WEIGHT CHANGE BY TARGET DOSE)
(GRAMS)
DOSE: 20,000 MG/M^3

ANIMAL NUMBER	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
IGL364F	20	0	7	13	26	57	16	119	139	16
IGL367F	46	-5	11	14	33	50	14	117	163	57
IGL368F	27	3	13	11	32	42	20	121	148	38
IGL375F	31	-7	10	9	25	47	21	105	136	51
IGL363F	17	9	9	7	20	29	9	83	100	48
IGL373F	20	-7	7	7	29	43	16	95	115	22
IGL397F	22	-4	8	9	30	51	21	115	137	19
IGL357F	35	-6	12	13	23	42	16	100	135	38
IGL369F	30	1	13	11	27	46	17	115	145	44
IGL404F	28	4	9	10	29	51	16	119	147	43
IGL365F	14	6	2	13	30	53	15	119	133	23
IGL366F	18	7	4	11	34	44	21	121	139	27
IGL372F	25	3	3	14	38	49	16	123	148	38
IGL396F	4	12	11	18	41	46	17	145	149	42
IGL371F	26	-2	8	9	28	49	27	119	145	38
IGL410F	29	7	2	13	28	56	14	120	149	44
IGL415F	17	26	5	13	35	48	23	150	167	43
IGL444F	38	-2	10	15	21	46	23	113	151	46
IGL449F	23	14	6	13	32	55	19	139	162	49
IGL451F	NP									
IGL458F	22	1	11	7	38	53	14	124	146	37
IGL471F	15	1	12	6	21	38	18	96	111	26
IGL424F	36	9	12	7	43	47	39	157	193	80
IGL428F	46	0	9	3	21	50	23	106	152	37
IGL439F	25	11	7	3	34	42	15	112	137	27

NOTE: NP - ANIMAL NOT PREGNANT GD - GESTATION DAY B - APPARENT BAD VALUE
C - CALCULATION COULD NOT BE PERFORMED DUE TO A BAD VALUE IN THE GD21 WEIGHT
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)

	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21	GD 5-20	GD 0-21
FEMALE	A-L-	A-L+	A+L+	A+L+	A-L-	A-L	A-L-	AL+	A-L+
0 MG/M^3									
MEAN	119.6	70.6	69.6	72.4	71.7	77.3	24.5	361.5	505.6
STD.DEV.	13.1	8.4	7.8	7.4	10.7	9.2	4.4	36.6	49.6
(N)	25	25	25	25	25	25	25	25	25
2000 MG/M^3									
MEAN	115.8	69.8	67.8	68.8	71.4	78.2	24.2	356	496
STD.DEV.	12.8	7.2	7.1	9.7	9.4	6.9	3.3	33.9	46.5
(N)	23	23	23	23	23	23	23	23	23
10,000 MG/M^3			*						
MEAN	118.4	67.3	63.8	67.5	68.7	75	23.2	342.3	483.8
STD.DEV.	13.4	8.1	7.5	5.8	6.4	7.4	5.4	30.8	42.6
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M^3			**	**				*	
MEAN	117.3	64.9	61.0	64.1	68.3	74	22.9	332.4	472.5
STD.DEV.	14.5	8.5	5.8	6.5	6.7	6.3	3.7	29.5	43.1
(N)	24	24	24	24	24	24	24	24	24

NOTE: GD - GESTATION DAY

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION)
(GRAMS)
TARGET DOSE: 0 MG/M^3

ANIMAL NUMBER	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21
IGL359F	100	60	55	57	64	66	27
IGL360F	107	63	63	65	68	72	21
IGL370F	123	68	73	75	77	62	12
IGL374F	113	58	63	65	62	67	22
IGL395F	119	67	67	73	81	83	25
IGL383F	110	69	66	75	77	78	29
IGL386F	110	60	62	69	68	72	19
IGL394F	114	64	65	73	71	76	22
IGL402F	132	75	71	76	78	85	33
IGL411F	115	70	69	77	76	73	23
IGL422F	114	66	70	78	77	81	23
IGL347F	133	84	77	79	75	84	25
IGL427F	120	69	72	71	58	75	21
IGL400F	110	70	78	85	89	92	27
IGL408F	130	84	80	79	81	87	31
IGL393F	110	68	64	63	60	66	25
IGL419F	106	70	59	63	63	67	24
IGL434F	139	86	82	83	83	94	27
IGL445F	113	68	67	69	65	70	24
IGL446F	114	69	64	63	67	66	25
IGL465F	162	92	88	77	83	85	31
IGL490F	131	71	77	81	85	88	29
IGL406F	124	70	70	68	69	80	22
IGL418F	125	77	75	80	75	74	22
IGL474F	115	66	64	65	40	89	24

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION)
(GRAMS)
TARGET DOSE: 2000 MG/M^3

ANIMAL NUMBER	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21
IGL346F	117	74	72	71	71	75	26
IGL361F	113	69	62	73	70	80	19
IGL376F	97	60	59	65	69	72	20
IGL381F	112	62	62	62	61	71	20
IGL405F	112	67	62	73	72	77	25
IGL382F	116	74	71	75	77	82	25
IGL390F	118	69	59	61	65	69	20
IGL358F	113	65	64	68	75	77	22
IGL398F	103	66	61	66	72	76	21
IGL350F	103	65	67	66	73	76	28
IGL353F	142	80	78	83	90	93	27
IGL420F	126	74	76	83	79	89	24
IGL435F NP							
IGL388F	132	75	73	72	72	76	25
IGL413F	111	72	64	63	76	81	22
IGL455F NP							
IGL414F	103	76	63	69	71	71	24
IGL433F	111	68	76	40	42	79	31
IGL441F	110	72	66	73	73	72	21
IGL457F	105	62	62	61	61	71	22
IGL466F	115	74	70	64	69	79	27
IGL475F	153	89	87	88	88	94	29
IGL488F	117	57	66	63	69	72	24
IGL432F	124	73	74	76	78	85	28
IGL477F	110	63	65	67	69	82	26

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION)
(GRAMS)
TARGET DOSE: 10,000 MG/M^3

ANIMAL NUMBER	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21
IGL379F	116	66	65	71	72	76	23
IGL389F	121	77	73	74	79	84	26
IGL391F	127	68	67	68	72	83	29
IGL352F	114	68	52	63	61	67	22
IGL355F	126	65	62	61	67	69	23
IGL417F	129	73	68	75	70	81	27
IGL378F	81	65	56	63	64	71	21
IGL380F	102	63	62	66	67	75	25
IGL348F	123	64	64	62	64	73	26
IGL430F	108	65	59	63	62	67	22
IGL409F	143	81	74	70	77	73	24
IGL421F	115	63	64	65	68	71	22
IGL385F NP							
IGL423F	141	83	78	79	79	85	24
IGL440F	118	67	64	72	71	73	26
IGL399F	102	60	56	60	63	73	22
IGL452F	116	68	59	64	62	69	26
IGL436F	128	76	67	70	65	76	27
IGL454F	122	73	70	77	72	87	27
IGL461F	107	57	62	68	67	72	25
IGL469F	106	55	52	56	54	55	20
IGL470F	132	76	73	74	80	84	24
IGL473F	121	48	50	64	72	80	23
IGL407F	117	65	61	65	71	83	0
IGL442F	126	69	73	69	69	74	23

APPENDIX D - GESTATION FOOD CONSUMPTION
(INDIVIDUAL GESTATION FOOD CONSUMPTION)
(GRAMS)
TARGET DOSE: 20,000 MG/M^3

ANIMAL NUMBER	GD 0-5	GD 5-8	GD 8-11	GD 11-14	GD 14-17	GD 17-20	GD 20-21
IGL364F	111	62	56	60	59	68	19
IGL367F	117	61	60	68	73	80	22
IGL368F	125	71	69	73	75	75	24
IGL375F	121	52	58	62	70	76	24
IGL363F	98	61	54	58	63	68	18
IGL373F	109	51	51	57	64	69	21
IGL397F	108	63	56	56	62	71	21
IGL357F	119	58	61	63	65	70	19
IGL369F	108	59	62	67	65	69	22
IGL404F	111	64	60	60	65	75	22
IGL365F	98	58	53	54	59	65	20
IGL366F	111	63	60	64	67	71	22
IGL372F	124	66	61	66	73	82	23
IGL396F	93	65	67	76	82	80	22
IGL371F	127	63	64	63	68	73	26
IGL410F	131	71	61	67	75	86	26
IGL415F	116	76	64	67	75	74	23
IGL444F	134	79	65	68	68	71	26
IGL449F	122	75	66	68	71	78	26
IGL451F	NP						
IGL458F	101	57	57	55	62	68	21
IGL471F	108	54	53	56	64	67	23
IGL424F	140	79	71	77	85	90	36
IGL428F	156	80	74	72	63	79	24
IGL439F	127	70	62	62	66	71	19

NOTE: GD - GESTATION DAY NP - NOT PREGNANT

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

	FEMALES			
TARGET	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
TOTAL AT TERMINAL SACRIFICE (A)	25	25	25	25
NO OBSERVABLE ABNORMALITIES	21	25	25	24
UTERUS: Diverticulum	1	0	0	0
Alopecia Trunk	3	0	0	1
NO EVIDENCE OF UTERINE IMPLANTATION SITES	0	2	1	1

NOTE: (A) - INCLUDES NON-PREGNANT ANIMALS

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS (INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS) TARGET DOSE: 0 MG/M^3

IGL359F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL360F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL370F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL374F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL395F - GENERAL CONDITION: Alopecia trunk.

IGL383F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL386F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL394F - GENERAL CONDITION: Alopecia trunk.

IGL402F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL411F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL422F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL347F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL427F - UTERUS (Right horn): Diverticulum, contains extreme amount of liquid.

IGL400F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL408F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL393F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL419F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 0 MG/M^3 (CONT'D)

IGL434F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL445F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL446F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL465F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL490F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL406F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL418F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL474F - GENERAL CONDITION: Alopecia trunk.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS (INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 2000 MG/M^3

IGL346F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL361F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL376F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL381F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL405F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL382F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL390F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL358F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL398F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL350F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL353F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL420F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL435F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGL388F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL413F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL455F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGL414F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 2000 MG/M^3 (CONT'D)

IGL433F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL441F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL457F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL466F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL475F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL488F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL432F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL477F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS (INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 10,000 MG/M^3

IGL379F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL389F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL391F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL352F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL355F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL417F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL378F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL380F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL348F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL430F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL409F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL421F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL385F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGL423F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL440F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL399F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL452F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 10,000 MG/M^3 (CONT'D)

IGL436F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL454F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL461F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL469F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL470F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL473F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL407F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL442F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS (INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 20,000 MG/M^3

IGL364F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL367F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL368F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL375F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL363F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL373F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL397F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL357F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL369F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL404F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL365F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL366F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL372F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL396F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL371F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL410F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL415F - ALL TISSUES AND ORGANS: No observable abnormalities.

APPENDIX E - GROSS POSTMORTEM OBSERVATIONS
(INDIVIDUAL GROSS POSTMORTEM OBSERVATIONS)

TARGET DOSE: 20,000 MG/M^3 (CONT'D)

IGL444F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL449F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL451F - ALL TISSUES AND ORGANS: No observable abnormalities.
NOTE: No evidence of uterine implantation sites.

IGL458F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL471F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL424F - ALL TISSUES AND ORGANS: No observable abnormalities.

IGL428F - ALL TISSUES AND ORGANS: No observable abnormalities

IGL439F - GENERAL CONDITION: Alopecia trunk.

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)

FEMALE	Total Live A-L-	Male Fetuses A-L-	Female Fetuses A-L-	Resorptions K-J-	Implantation Sites A-L-	Corpora Lutea A-L-	Total Dead K-J-	Fetuses/ Implantation K-J-	Resorptions/ Implantation K-J-
0 MG/M^3									
MEAN	14.12	6.88	7.24	0.4	14.56	15.88	0.04	0.95	0.04
STD.DEV.	3.11	2.44	2.15	0.58	3	1.54	0.2	0.1	0.1
(N)	25	25	25	25	25	25	25	25	25
2000 MG/M^3									
MEAN	14.3	6.61	7.7	0.61	14.91	15.96	0	0.96	0.04
STD.DEV.	3.4	2.54	2.46	1.31	3.36	2.57	0	0.08	0.08
(N)	23	23	23	23	23	23	23	23	23
10,000 MG/M^3									
MEAN	13.54	7.13	6.42	0.58	14.13	15	0	0.96	0.04
STD.DEV.	3.95	2.86	2.75	0.78	4.07	2.9	0	0.05	0.05
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M^3									
MEAN	14.25	7.13	7.13	0.33	14.63	15.08	0.04	0.98	0.02
STD.DEV.	2.27	2.07	2.13	0.48	2.32	2.24	0.2	0.03	0.03
(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)

FEMALE	F/I Tran K-J-	R/I Tran K-J-	D/I Tran K-J-	Dead/ Implantation K-J-	% Preimplant Loss K-J-	% Postimplant Loss K-J-	Total Malformations A-L-	Total Variations A-L-	Total Affected K-J-
0 MG/M^3									
MEAN	78.1	11.6	8.24	0	7.9	4.6	0.24	1.7	0.7
STD.DEV.	8.03	8.07	2.93	0	17.7	10.2	0.44	1.2	0.8
(N)	25	25	25	25	25	25	25	25	25
2000 MG/M^3									
MEAN	78.4	11.6	7.71	0	7.5	3.8	0.17	1.3	0.8
STD.DEV.	6.85	6.85	1.64	0	14.2	7.8	0.39	1.4	1.3
(N)	23	23	23	23	23	23	23	23	23
10,000 MG/M^3									
MEAN	77.5	12.5	8.30	0	7.8	3.8	0.08	1.9	0.7
STD.DEV.	5.60	5.60	3.07	0	19	5.2	0.28	1.8	0.8
(N)	24	24	24	24	24	24	24	24	24
20,000 MG/M^3									
MEAN	79.6	10.1	7.93	0	3.2	2.5	0.08	1.8	0.5
STD.DEV.	3.68	3.63	1.70	0	4.4	3.3	0.28	1.5	0.5
(N)	24	24	24	24	24	24	24	24	24

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 0 MG/M^3

ANIMAL NUMBER	Live	Male	Female	Resorp	Implants	CL	Dead	Mal	Var
IGL359F	14	7	7	0	14	17	0	0	2
IGL360F	15	5	10	1	16	17	0	0	3
IGL370F	16	9	7	0	17	17	1	0	2
IGL374F	14	7	7	1	15	15	0	1	2
IGL395F	16	12	4	0	16	16	0	0	2
IGL383F	15	9	6	0	15	15	0	0	1
IGL386F	14	10	4	0	14	14	0	0	2
IGL394F	15	6	9	0	15	15	0	1	2
IGL402F	17	7	10	0	17	18	0	1	4
IGL411F	13	4	9	1	14	15	0	0	2
IGL422F	16	9	7	0	16	17	0	0	2
IGL347F	15	6	9	0	15	16	0	0	2
IGL427F	1	0	1	1	2	17	0	0	0
IGL400F	18	9	9	0	18	18	0	0	3
IGL408F	15	6	9	0	15	15	0	0	1
IGL393F	13	6	7	0	13	16	0	0	0
IGL419F	15	5	10	0	15	15	0	0	1
IGL434F	17	11	6	1	18	20	0	1	0
IGL445F	15	7	8	0	15	16	0	0	0
IGL446F	14	7	7	2	16	16	0	1	3
IGL465F	14	6	8	0	14	15	0	0	0
IGL490F	12	6	6	0	12	14	0	1	3
IGL406F	13	7	6	1	14	14	0	0	0
IGL418F	12	6	6	1	13	13	0	0	4
IGL474F	14	5	9	1	15	16	0	0	1

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 0 MG/M^3

ANIMAL NUMBER	F/I Tran	R/I Tran	D/I Tran
IGL359F	82.321	7.679	7.6795
IGL360F	75.523	14.478	7.1808
IGL370F	75.964	6.965	14.0363
IGL374F	75.037	14.963	7.4176
IGL395F	82.82	7.181	7.1808
IGL383F	82.583	7.418	7.4176
IGL386F	82.321	7.679	7.6795
IGL394F	82.583	7.418	7.4176
IGL402F	83.035	6.965	6.9653
IGL411F	74.499	15.501	7.6795
IGL422F	82.82	7.181	7.1808
IGL347F	82.583	7.418	7.4176
IGL427F	45.000	45.000	20.7049
IGL400F	83.232	6.768	6.7681
IGL408F	82.583	7.418	7.4176
IGL393F	82.029	7.971	7.9712
IGL419F	82.583	7.418	7.4176
IGL434F	76.367	13.633	6.7681
IGL445F	82.583	7.418	7.4176
IGL446F	69.296	20.705	7.1808
IGL465F	82.321	7.679	7.6795
IGL490F	81.702	8.299	8.299
IGL406F	74.499	15.501	7.6795
IGL418F	73.898	16.102	7.9712
IGL474F	75.037	14.963	7.4176

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 2000 MG/M^3

ANIMAL NUMBER	Live	Male	Female	Resorp	Implants	CL	Dead	Mal	Var
IGL346F	15	7	8	0	15	15	0	0	0
IGL361F	15	7	8	0	15	16	0	0	1
IGL376F	13	7	6	1	14	15	0	0	1
IGL381F	11	4	7	6	17	18	0	0	1
IGL405F	18	9	9	0	18	19	0	0	0
IGL382F	15	6	9	0	15	15	0	0	1
IGL390F	13	3	10	1	14	14	0	0	1
IGL358F	18	11	7	0	18	21	0	0	0
IGL398F	16	10	6	0	16	16	0	0	1
IGL350F	16	7	9	0	16	16	0	0	0
IGL353F	19	7	12	0	19	20	0	1	5
IGL420F	13	7	6	1	14	14	0	0	0
IGL435F NP									
IGL388F	14	3	11	0	14	14	0	0	1
IGL413F	13	7	6	0	13	15	0	0	2
IGL455F NP									
IGL414F	15	8	7	2	17	17	0	0	1
IGL433F	16	3	13	0	16	17	0	1	5
IGL441F	15	8	7	1	16	17	0	0	2
IGL457F	12	6	6	1	13	13	0	0	3
IGL466F	16	9	7	1	17	17	0	0	1
IGL475F	4	2	2	0	4	10	0	0	1
IGL488F	8	4	4	0	8	13	0	0	0
IGL432F	19	11	8	0	19	20	0	1	2
IGL477F	15	6	9	0	15	15	0	1	2

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 2000 MG/M^3

ANIMAL NUMBER	F/I Tran	R/I Tran	D/I Tran
IGL346F	82.583	7.418	7.4176
IGL361F	82.583	7.418	7.4176
IGL376F	74.499	15.501	7.6795
IGL381F	53.553	36.448	6.9653
IGL405F	83.232	6.768	6.7681
IGL382F	82.583	7.418	7.4176
IGL390F	74.499	15.501	7.6795
IGL358F	83.232	6.768	6.7681
IGL398F	82.82	7.181	7.1808
IGL350F	82.82	7.181	7.1808
IGL353F	83.414	6.587	6.5868
IGL420F	74.499	15.501	7.6795
IGL435F NP			
IGL388F	82.321	7.679	7.6795
IGL413F	82.029	7.971	7.9712
IGL455F NP			
IGL414F	69.941	20.06	6.9653
IGL433F	82.82	7.181	7.1808
IGL441F	75.523	14.478	7.1808
IGL457F	73.898	16.102	7.9712
IGL466F	75.964	14.036	6.9653
IGL475F	75.523	14.478	14.4776
IGL488F	79.818	10.182	10.1821
IGL432F	83.414	6.587	6.5868
IGL477F	82.583	7.418	7.4176

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 10,000 MG/M^3

ANIMAL NUMBER	Live	Male	Female	Resorp	Implants	CL	Dead	Mal	Var
IGL379F	16	8	8	0	16	16	0	0	3
IGL389F	16	10	6	0	16	16	0	0	0
IGL391F	15	8	7	2	17	17	0	0	1
IGL352F	14	7	7	2	16	17	0	0	2
IGL355F	17	8	9	0	17	17	0	0	7
IGL417F	16	11	5	0	16	16	0	0	2
IGL378F	13	8	5	2	15	15	0	0	1
IGL380F	15	9	6	0	15	16	0	0	2
IGL348F	14	10	4	1	15	15	0	1	1
IGL430F	4	3	1	0	4	13	0	0	0
IGL409F	14	3	11	0	14	15	0	0	0
IGL421F	12	4	8	1	13	13	0	0	0
IGL385F NP									
IGL423F	18	7	11	1	19	19	0	0	0
IGL440F	9	7	2	0	9	9	0	0	1
IGL399F	17	10	7	0	17	17	0	0	3
IGL452F	14	7	7	1	15	16	0	0	2
IGL436F	15	11	4	1	16	18	0	0	1
IGL454F	11	4	7	2	13	13	0	0	4
IGL461F	11	6	5	0	11	13	0	0	3
IGL469F	2	1	1	0	2	6	0	0	0
IGL470F	18	12	6	0	18	18	0	0	4
IGL473F	15	7	8	1	16	16	0	0	2
IGL407F	16	6	10	0	16	16	0	0	5
IGL442F	13	4	9	0	13	13	0	1	1

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 10,000 MG/M^3

ANIMAL NUMBER	F/I Tran	R/I Tran	D/I Tran
IGL379F	82.82	7.181	7.1808
IGL389F	82.82	7.181	7.1808
IGL391F	69.941	20.06	6.9653
IGL352F	69.296	20.705	7.1808
IGL355F	83.035	6.965	6.9653
IGL417F	82.82	7.181	7.1808
IGL378F	68.584	21.417	7.4176
IGL380F	82.583	7.418	7.4176
IGL348F	75.037	14.963	7.4176
IGL430F	75.523	14.478	14.4776
IGL409F	82.321	7.679	7.6795
IGL421F	73.898	16.102	7.9712
IGL385F	NP		
IGL423F	76.738	13.263	6.5868
IGL440F	80.406	9.594	9.5941
IGL399F	83.035	6.965	6.9653
IGL452F	75.037	14.963	7.4176
IGL436F	75.523	14.478	7.1808
IGL454F	66.907	23.094	7.9712
IGL461F	81.33	8.671	8.6708
IGL469F	69.296	20.705	20.7049
IGL470F	83.232	6.768	6.7681
IGL473F	75.523	14.478	7.1808
IGL407F	82.82	7.181	7.1808
IGL442F	82.029	7.971	7.9712

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 20,000 MG/M^3

ANIMAL NUMBER	Live	Male	Female	Resorp	Implants	CL	Dead	Mal	Var
IGL364F	17	10	7	0	17	17	0	0	3
IGL367F	15	11	4	0	15	15	0	0	2
IGL368F	16	10	6	0	16	16	0	0	1
IGL375F	11	8	3	1	12	13	0	0	2
IGL363F	6	5	1	0	6	7	0	0	1
IGL373F	13	4	9	1	14	14	0	0	1
IGL397F	16	8	8	0	16	17	0	0	1
IGL357F	15	6	9	0	16	17	1	0	5
IGL369F	14	5	9	1	15	16	0	0	3
IGL404F	14	5	9	0	14	15	0	0	0
IGL365F	15	9	6	1	16	16	0	0	0
IGL366F	15	8	7	0	15	15	0	1	1
IGL372F	15	10	5	1	16	16	0	0	4
IGL396F	14	6	8	0	14	15	0	0	0
IGL371F	14	6	8	1	15	16	0	0	2
IGL410F	15	6	9	0	15	15	0	0	4
IGL415F	16	9	7	0	16	17	0	1	0
IGL444F	14	5	9	0	14	15	0	0	3
IGL449F	15	7	8	0	15	15	0	0	2
IGL451F NP									
IGL458F	14	6	8	0	14	14	0	0	0
IGL471F	11	4	7	0	11	11	0	0	0
IGL424F	15	8	7	1	16	17	0	0	4
IGL428F	16	6	10	1	17	16	0	0	2
IGL439F	16	9	7	0	16	17	0	0	1

NOTE: NP - ANIMAL NOT PREGNANT

APPENDIX F - UTERINE IMPLANTATION DATA
(INDIVIDUAL UTERINE IMPLANTATION DATA)
(SEE LIST OF ABBREVIATIONS ON PAGE G-2 FOR ABBREVIATIONS)
TARGET DOSE: 20,000 MG/M^3

ANIMAL NUMBER	F/I Tran	R/I Tran	D/I Tran
IGL364F	83.035	6.965	6.9653
IGL367F	82.583	7.418	7.4176
IGL368F	82.82	7.181	7.1808
IGL375F	73.222	16.779	8.299
IGL363F	78.222	11.778	11.7783
IGL373F	74.499	15.501	7.6795
IGL397F	82.82	7.181	7.1808
IGL357F	75.523	7.181	14.4776
IGL369F	75.037	14.963	7.4176
IGL404F	82.321	7.679	7.6795
IGL365F	75.523	14.478	7.1808
IGL366F	82.583	7.418	7.4176
IGL372F	75.523	14.478	7.1808
IGL396F	82.321	7.679	7.6795
IGL371F	75.037	14.963	7.4176
IGL410F	82.583	7.418	7.4176
IGL415F	82.82	7.181	7.1808
IGL444F	82.321	7.679	7.6795
IGL449F	82.583	7.418	7.4176
IGL451F NP			
IGL458F	82.321	7.679	7.6795
IGL471F	81.33	8.671	8.6708
IGL424F	75.523	14.478	7.1808
IGL428F	75.964	14.036	6.9653
IGL439F	82.82	7.181	7.1808

NOTE: NP - ANIMAL NOT PREGNANT

APPENDIX G – FETAL BODY WEIGHT
(MEAN FETAL BODY WEIGHTS BY SEX)

Target Concentration	MALES	FEMALES
0 mg/m^3		
Mean	5.46	5.18
SD	0.41	0.39
(N)	24	25
2000 mg/m^3		
Mean	5.45	5.19
SD.	0.38	0.44
(N)	23	23
10,000 mg/m^3		
Mean	5.41	5.19
SD	0.44	0.39
(N)	24	24
20,000 mg/m^3		
Mean	5.43	5.11
SD	0.47	0.44
(N)	24	24

APPENDIX G – FETAL BODY WEIGHT

Mean fetal weight, the least squares mean fetal weight

Exposure Group (mg/m^3)	n litters	n fetuses	observed fetus mean (gm)	Least squares fetus mean (gm)
0	25	353	5.32	5.33
2,000	23	329	5.31	5.34
10,000	24	325	5.30	5.29
20,000	24	342	5.27	5.25

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 0 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL359F	M	5.08 5.50 5.17 5.66 4.88 5.56 5.12	72.12	Mean	5.28	5.02
IGL359F	F	5.01 4.82 5.27 5.45 4.81 4.34 5.45		S.D.	0.29	0.40
IGL360F	M	5.18 5.58 5.65 5.43 5.83	78.15	Mean	5.53	5.05
IGL360F	F	5.08 5.06 5.19 5.19 4.74 5.17 4.75 5.12 5.12 5.06		S.D.	0.24	0.17
IGL370F	M	5.25 4.84 4.82 5.01 5.08 4.90 5.21 5.34 4.62	80.03	Mean	5.01	4.99
IGL370F	F	4.66 5.07 5.14 5.40 5.42 4.50 4.77		S.D.	0.23	0.36
IGL374F	M	5.44 5.50 5.62 5.92 4.89 5.00 5.72	73.78	Mean	5.44	5.10
IGL374F	F	5.24 5.28 5.16 4.59 5.15 5.15 5.12		S.D.	0.37	0.23
IGL395F	M	5.44 5.88 5.76 5.76 5.64 5.73 5.48 5.94 5.78 5.68 6.02 5.65	90.97	Mean	5.73	5.55
IGL395F	F	5.43 5.83 5.56 5.39		S.D.	0.17	0.20
IGL383F	M	5.71 5.71 6.05 5.61 5.58 5.74 5.35 5.99 5.98	85.26	Mean	5.75	5.59
IGL383F	F	5.56 5.41 6.12 5.60 5.55 5.30		S.D.	0.23	0.28
IGL386F	M	5.07 5.39 5.59 5.48 5.40 5.98 5.43 5.74 5.61 5.16	74.89	Mean	5.49	5.01
IGL386F	F	5.05 5.09 4.72 5.18		S.D.	0.27	0.20
IGL394F	M	6.26 5.90 5.62 5.95 5.98 5.84	85.57	Mean	5.93	5.56
IGL394F	F	5.87 5.72 5.76 5.65 5.14 5.69 5.44 5.64 5.11		S.D.	0.21	0.27
IGL402F	M	5.98 5.77 6.00 5.71 5.49 5.83 3.19	92.56	Mean	5.42	5.46
IGL402F	F	5.77 5.37 5.88 5.56 5.10 5.06 5.31 5.59 5.50 5.45		S.D.	1.00	0.26
IGL411F	M	5.80 6.53 5.99 5.96	73.10	Mean	6.07	5.42
IGL411F	F	5.50 5.50 5.04 5.75 5.39 5.54 4.71 5.73 5.66		S.D.	0.32	0.34
IGL422F	M	5.14 5.13 5.69 5.01 5.31 5.50 5.09 4.81 5.27	80.95	Mean	5.22	4.86
IGL422F	F	4.70 5.05 4.89 5.01 5.19 4.30 4.86		S.D.	0.26	0.29
IGL347F	M	5.14 5.36 5.11 5.20 4.93 5.04	74.35	Mean	5.13	4.84
IGL347F	F	4.76 4.88 4.95 5.04 4.87 4.66 4.73 4.86 4.82		S.D.	0.15	0.12
IGL427F	M		6.25	Mean	NA	6.25
IGL427F	F	6.25		S.D.	NA	NA
IGL400F	M	5.52 5.30 5.47 5.67 5.92 5.47 5.61 5.55 5.75	96.47	Mean	5.58	5.13
IGL400F	F	5.37 4.85 5.18 5.32 5.15 4.49 4.96 5.24 5.65		S.D.	0.18	0.33
IGL408F	M	5.24 5.53 5.16 5.14 5.72 5.56	78.00	Mean	5.39	5.07
IGL408F	F	5.14 4.96 5.07 4.99 5.33 5.10 5.13 4.99 4.94		S.D.	0.24	0.12

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 0 MG/M^3

ANIMAL NUMBER	SEX											Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL393F	M	5.33	5.28	5.21	5.15	5.25	4.78					65.81	Mean	5.17	4.97
IGL393F	F	5.31	5.40	5.03	4.51	4.97	4.80	4.79					S.D.	0.20	0.31
IGL419F	M	5.19	5.39	5.26	5.69	5.26						77.59	Mean	5.36	5.08
IGL419F	F	5.17	5.11	5.50	4.86	4.82	5.07	4.99	5.27	4.91	5.10		S.D.	0.20	0.20
IGL434F	M	5.31	4.19	5.42	5.12	5.22	5.08	5.34	5.33	5.58	5.08 5.48	86.63	Mean	5.20	4.91
IGL434F	F	4.76	4.85	5.30	5.10	4.61	4.86						S.D.	0.37	0.25
IGL445F	M	5.64	5.28	5.39	3.64	5.57	5.41	5.05				76.27	Mean	5.14	5.04
IGL445F	F	4.96	4.84	4.92	5.24	5.05	5.23	5.00	5.05				S.D.	0.69	0.14
IGL446F	M	5.50	5.16	5.69	5.29	5.00	5.68	5.61				71.77	Mean	5.42	4.83
IGL446F	F	4.53	4.94	4.82	5.16	4.46	4.98	4.95					S.D.	0.27	0.25
IGL465F	M	5.76	5.73	5.88	5.73	5.40	5.34					76.86	Mean	5.64	5.38
IGL465F	F	5.26	5.46	5.20	5.30	5.38	5.74	5.24	5.44				S.D.	0.22	0.17
IGL490F	M	5.58	5.73	5.76	5.57	5.54	5.45					63.46	Mean	5.61	4.97
IGL490F	F	5.40	4.97	5.51	2.90	5.50	5.55						S.D.	0.12	1.04
IGL406F	M	5.33	5.89	6.17	5.70	5.40	5.66	5.45				71.38	Mean	5.66	5.30
IGL406F	F	5.45	5.35	5.53	5.23	5.09	5.13						S.D.	0.30	0.18
IGL418F	M	5.95	5.88	5.37	5.78	5.93	5.46					67.12	Mean	5.73	5.46
IGL418F	F	5.15	5.22	5.53	5.47	5.69	5.69						S.D.	0.25	0.23
IGL474F	M	5.72	5.47	5.80	5.64	5.72						77.95	Mean	5.67	5.51
IGL474F	F	5.26	5.59	4.80	5.77	5.22	5.89	5.74	5.70	5.63			S.D.	0.13	0.35
												Mean 75.09			
												S.D. 16.48			

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 2000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL346F	M	5.06 4.97 5.21 5.35 4.84 5.04 5.21	75.51	Mean	5.10	4.98
IGL346F	F	5.01 4.90 4.85 4.90 4.82 4.94 5.19 5.22		S.D.	0.17	0.15
IGL361F	M	5.40 5.37 5.40 5.83 5.82 5.67 5.77	82.74	Mean	5.61	5.44
IGL361F	F	5.11 5.54 5.24 5.83 5.72 5.51 5.32 5.21		S.D.	0.21	0.26
IGL376F	M	5.62 5.54 5.20 5.66 5.74 5.61 5.62	71.56	Mean	5.57	5.43
IGL376F	F	5.25 5.63 5.33 5.33 5.37 5.66		S.D.	0.17	0.17
IGL381F	M	5.28 4.26 5.84 4.97	56.12	Mean	5.09	5.11
IGL381F	F	5.09 5.22 4.94 4.60 5.23 5.50 5.19		S.D.	0.66	0.28
IGL405F	M	5.10 5.38 5.29 5.34 5.40 5.62 5.36 5.26 5.14	91.67	Mean	5.32	4.86
IGL405F	F	4.81 4.82 4.94 4.80 4.97 4.91 4.87 4.65 5.01		S.D.	0.15	0.11
IGL382F	M	5.96 5.87 6.06 6.12 5.33 5.92	85.40	Mean	5.88	5.57
IGL382F	F	5.40 5.67 5.55 5.65 5.50 5.88 5.46 5.59 5.44		S.D.	0.28	0.15
IGL390F	M	5.52 5.46 5.63	69.84	Mean	5.54	5.32
IGL390F	F	4.86 5.24 5.42 5.42 5.19 5.76 5.47 5.03 5.59 5.25		S.D.	0.09	0.27
IGL358F	M	5.68 5.58 5.50 5.48 5.53 5.46 5.34 5.36 5.39 5.91 5.86	98.21	Mean	5.55	5.30
IGL358F	F	5.17 5.45 5.50 5.35 5.24 5.27 5.14		S.D.	0.19	0.14
IGL398F	M	4.90 5.19 5.17 5.16 5.48 5.31 5.48 5.38 5.47 5.50	83.19	Mean	5.30	5.03
IGL398F	F	5.27 4.80 5.09 5.28 4.86 4.85		S.D.	0.20	0.22
IGL350F	M	5.93 5.22 5.33 5.48 5.63 5.65 6.02	85.54	Mean	5.61	5.14
IGL350F	F	4.97 5.09 5.34 5.45 5.03 4.91 5.20 5.12 5.17		S.D.	0.29	0.17
IGL353F	M	5.12 4.37 4.75 4.99 5.12 5.00 4.68	88.78	Mean	4.86	4.56
IGL353F	F	4.30 4.53 4.44 4.37 4.73 4.69 4.71 4.37 4.88 4.63 4.46 4.64		S.D.	0.28	0.18
IGL420F	M	5.22 5.58 5.64 4.70 5.07 4.89 5.00	65.33	Mean	5.16	4.87
IGL420F	F	5.34 4.69 5.03 4.07 5.10 5.00		S.D.	0.35	0.44
IGL435F	NP					
IGL388F	M	5.45 6.03 5.69	75.08	Mean	5.72	5.26
IGL388F	F	5.43 5.48 5.07 4.91 5.35 5.93 5.36 5.51 4.86 5.21 4.80		S.D.	0.29	0.34
IGL413F	M	5.81 5.75 5.36 5.43 5.50 5.58 5.48	71.36	Mean	5.56	5.41
IGL413F	F	5.06 5.31 5.57 5.72 5.39 5.40		S.D.	0.17	0.23

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 2000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL455F	NP					
IGL414F	M	5.10 5.23 5.18 5.41 5.18 5.26 5.59 5.49	78.53	Mean	5.31	5.16
IGL414F	F	5.14 5.15 4.98 5.23 4.99 5.30 5.30		S.D.	0.17	0.13
IGL433F	M	5.82 6.17 5.49	83.29	Mean	5.83	5.06
IGL433F	F	2.27 5.34 5.34 5.39 5.46 4.42 5.01 5.74 5.55 5.69 4.89 5.16 5.55		S.D.	0.34	0.91
IGL441F	M	4.86 5.11 5.48 5.18 5.34 5.32 4.38 5.10	75.04	Mean	5.10	4.90
IGL441F	F	4.70 4.72 4.51 5.09 5.07 5.25 4.93		S.D.	0.34	0.26
IGL457F	M	5.30 5.67 5.32 5.30 5.06 5.60	63.48	Mean	5.38	5.21
IGL457F	F	5.23 5.11 5.04 5.32 5.62 4.91		S.D.	0.22	0.25
IGL466F	M	5.40 5.51 5.56 5.69 5.75 5.54 5.46 5.48 5.72	87.31	Mean	5.57	5.31
IGL466F	F	5.64 5.34 5.30 5.45 5.06 5.03 5.38		S.D.	0.12	0.21
IGL475F	M	6.76 6.68	26.18	Mean	6.72	6.37
IGL475F	F	6.62 6.12		S.D.	0.06	0.35
IGL488F	M	5.11 5.59 5.24 5.34	41.39	Mean	5.32	5.03
IGL488F	F	4.99 5.11 4.97 5.04		S.D.	0.20	0.06
IGL432F	M	5.46 5.81 5.46 5.96 5.62 5.46 5.08 5.71 5.30 5.50 5.83	103.53	Mean	5.56	5.29
IGL432F	F	5.37 5.15 5.47 5.40 5.28 5.37 4.98 5.32		S.D.	0.26	0.16
IGL477F	M	5.85 6.18 6.07 6.26 6.05 5.76	88.35	Mean	6.03	5.80
IGL477F	F	5.36 6.02 6.07 5.71 6.11 5.78 5.77 5.75 5.61		S.D.	0.19	0.24
		Mean	75.98			
		S.D.	17.46			

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 10,000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL379F	M	5.53 5.73 5.76 5.92 5.83 5.76 5.64 5.62	88.12	Mean	5.72	5.29
IGL379F	F	5.84 5.33 5.04 5.43 5.24 5.42 5.07 4.96		S.D.	0.12	0.28
IGL389F	M	6.36 6.13 5.74 6.07 6.17 6.20 6.11 6.07 6.11 6.38	96.35	Mean	6.13	5.84
IGL389F	F	5.79 5.79 6.24 5.58 5.69 5.92		S.D.	0.18	0.23
IGL391F	M	4.51 5.12 5.34 5.25 4.84 5.11 4.65 5.15	72.60	Mean	5.00	4.66
IGL391F	F	4.66 4.95 4.63 4.84 4.69 4.41 4.45		S.D.	0.30	0.19
IGL352F	M	5.66 6.09 5.27 6.33 5.57 6.11 6.07	79.89	Mean	5.87	5.54
IGL352F	F	5.63 5.35 5.47 5.55 5.53 5.75 5.51		S.D.	0.38	0.13
IGL355F	M	5.41 5.17 4.58 5.24 3.81 4.73 4.93 5.22	82.58	Mean	4.89	4.83
IGL355F	F	4.25 5.13 5.13 4.46 5.25 4.78 4.66 4.67 5.16		S.D.	0.52	0.35
IGL417F	M	5.49 5.15 5.39 5.39 5.61 5.82 5.18 5.26 5.53 5.55 5.58	86.15	Mean	5.45	5.24
IGL417F	F	5.29 5.23 5.12 5.29 5.27		S.D.	0.20	0.07
IGL378F	M	5.50 5.26 5.21 5.30 5.34 5.51 5.60 5.45	68.45	Mean	5.40	5.06
IGL378F	F	5.19 5.21 4.78 5.19 4.91		S.D.	0.14	0.20
IGL380F	M	5.36 5.25 5.23 4.93 5.28 4.93 5.21 4.97 4.74	75.68	Mean	5.10	4.96
IGL380F	F	4.99 4.84 4.95 5.18 4.76 5.06		S.D.	0.21	0.15
IGL348F	M	5.13 5.04 5.01 5.44 5.49 5.13 5.59 5.52 5.27 5.18	72.73	Mean	5.28	4.98
IGL348F	F	4.94 5.03 5.07 4.89		S.D.	0.21	0.08
IGL430F	M	5.75 5.98 5.99	23.37	Mean	5.91	5.65
IGL430F	F	5.65		S.D.	0.14	NA
IGL409F	M	5.28 5.73 5.51	72.27	Mean	5.51	5.07
IGL409F	F	4.76 4.86 4.81 5.19 4.91 5.09 5.35 5.36 5.12 5.13 5.17		S.D.	0.23	0.21
IGL421F	M	5.93 5.81 5.57 5.48	66.72	Mean	5.70	5.49
IGL421F	F	5.22 5.65 5.51 5.66 5.67 5.25 5.76 5.21		S.D.	0.21	0.23
IGL385F	NP					
IGL423F	M	4.74 5.02 5.22 4.99 5.41 4.98 5.13	89.87	Mean	5.07	4.94
IGL423F	F	4.88 4.89 4.93 5.02 4.74 5.13 5.23 4.97 4.96 4.88 4.75		S.D.	0.21	0.15
IGL440F	M	4.48 5.60 5.38 5.73 5.41 5.58 5.68	48.10	Mean	5.41	5.12
IGL440F	F	4.80 5.44		S.D.	0.43	0.45

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 10,000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL399F	M	5.72 4.52 5.35 5.28 5.62 5.13 5.48 5.15 5.12 5.53	88.98	Mean	5.29	5.15
IGL399F	F	4.79 5.31 5.07 4.97 5.40 5.53 5.01		S.D.	0.34	0.26
IGL452F	M	5.26 5.36 5.38 5.33 5.86 5.48 5.46	73.33	Mean	5.45	5.03
IGL452F	F	5.25 4.85 5.61 4.95 4.75 5.11 4.68		S.D.	0.20	0.32
IGL436F	M	4.72 5.50 5.19 5.64 5.42 5.05 4.09 5.21 4.98 5.10 5.11	75.86	Mean	5.09	4.96
IGL436F	F	5.21 5.22 4.70 4.72		S.D.	0.42	0.29
IGL454F	M	4.89 4.86 5.64 5.12	55.99	Mean	5.13	5.07
IGL454F	F	5.02 5.56 5.41 4.39 5.02 5.04 5.04		S.D.	0.36	0.37
IGL461F	M	6.03 5.80 6.24 5.75 6.38 5.64	63.51	Mean	5.97	5.53
IGL461F	F	5.70 5.43 5.67 5.49 5.38		S.D.	0.29	0.14
IGL469F	M	6.21	12.51	Mean	6.21	6.30
IGL469F	F	6.30		S.D.	NA	NA
IGL470F	M	4.98 5.45 4.86 5.07 5.29 4.76 4.53 4.88 4.79 5.09 5.26 5.15	88.36	Mean	5.01	4.71
IGL470F	F	4.36 5.06 4.36 4.85 4.64 4.98		S.D.	0.26	0.30
IGL473F	M	5.78 5.62 6.04 5.59 5.35 5.34 5.44	84.09	Mean	5.59	5.62
IGL473F	F	5.38 5.39 5.60 5.60 6.22 5.94 5.30 5.50		S.D.	0.25	0.31
IGL407F	M	5.28 5.56 5.07 6.08 5.75 5.83	86.49	Mean	5.60	5.29
IGL407F	F	5.48 5.41 5.71 5.10 4.69 4.89 5.00 5.91 5.19 5.54		S.D.	0.37	0.38
IGL442F	M	6.01 5.58 5.55 5.41	71.11	Mean	5.64	5.40
IGL442F	F	5.46 5.50 5.39 5.20 5.53 5.57 5.55 5.10 5.26		S.D.	0.26	0.17
			Mean 71.80			
			S.D. 20.14			

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 20,000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL364F	M	4.95 5.93 5.49 6.05 5.35 5.61 5.60 5.43 5.29 5.51	90.53	Mean	5.52	5.05
IGL364F	F	4.97 5.52 5.02 5.41 5.09 5.07 4.24		S.D.	0.31	0.41
IGL367F	M	5.06 5.19 5.63 5.37 5.46 4.95 5.09 5.18 5.25 5.35 5.30	77.68	Mean	5.26	4.96
IGL367F	F	4.79 5.28 4.91 4.87		S.D.	0.19	0.22
IGL368F	M	5.33 5.06 5.19 3.18 4.81 5.22 5.25 5.57 5.61 5.94	81.64	Mean	5.12	5.08
IGL368F	F	4.85 4.95 5.27 4.94 5.36 5.11		S.D.	0.75	0.20
IGL375F	M	5.68 5.62 5.48 5.75 3.44 5.51 5.60 5.48	57.78	Mean	5.32	5.07
IGL375F	F	5.39 5.04 4.79		S.D.	0.77	0.30
IGL363F	M	4.42 6.12 4.93 6.33 5.90	33.30	Mean	5.54	5.60
IGL363F	F	5.60		S.D.	0.82	NA
IGL373F	M	5.83 5.34 5.32 5.33	67.49	Mean	5.46	5.07
IGL373F	F	5.09 5.07 5.15 4.94 4.64 5.19 4.99 5.31 5.29		S.D.	0.25	0.20
IGL397F	M	5.55 5.51 5.45 5.48 5.48 5.28 6.01 5.76	87.30	Mean	5.57	5.35
IGL397F	F	5.04 5.40 5.53 5.31 5.08 5.51 5.61 5.30		S.D.	0.22	0.21
IGL357F	M	3.99 4.35 4.41 4.65 4.24 4.57	63.00	Mean	4.37	4.09
IGL357F	F	1.68 4.23 3.16 4.24 4.71 4.42 4.09 4.54 3.58 3.82		S.D.	0.24	0.49
IGL369F	M	4.17 4.99 5.11 5.41 5.50	70.26	Mean	5.04	5.01
IGL369F	F	5.31 4.87 5.15 4.81 4.92 4.96 5.29 4.99 4.78		S.D.	0.53	0.20
IGL404F	M	5.76 5.39 5.56 5.33 5.66	75.28	Mean	5.54	5.29
IGL404F	F	5.42 5.10 5.17 5.60 5.19 5.36 5.19 5.44 5.11		S.D.	0.18	0.17
IGL365F	M	5.40 5.41 5.13 5.98 4.98 5.14 5.62 5.43 5.43	78.45	Mean	5.39	4.99
IGL365F	F	5.09 5.30 4.68 4.81 5.14 4.91		S.D.	0.30	0.23
IGL366F	M	5.83 5.46 5.69 6.17 6.04 5.88 5.73 5.45	82.10	Mean	5.78	5.12
IGL366F	F	3.46 5.24 5.16 5.65 5.33 5.37 5.64		S.D.	0.25	0.76
IGL372F	M	5.09 5.44 5.22 4.95 5.24 5.04 4.93 5.28 5.28 5.51	76.51	Mean	5.20	4.91
IGL372F	F	4.49 5.00 5.27 4.75 5.02		S.D.	0.19	0.30
IGL396F	M	5.55 5.89 5.39 5.61 5.46 5.52	76.34	Mean	5.57	5.37
IGL396F	F	5.18 5.48 5.25 5.41 5.18 5.49 5.37 5.56		S.D.	0.17	0.15
IGL371F	M	5.82 5.96 5.56 5.60 5.95 5.69	79.74	Mean	5.76	5.65
IGL371F	F	5.08 5.45 5.94 5.88 5.99 5.68 5.49 5.65		S.D.	0.17	0.30

The weight of the first female fetus in litter IGL357 was an outlier and was not used in the statistical analyses

APPENDIX G - FETAL BODY WEIGHT
(INDIVIDUAL AND MEAN FETAL BODY WEIGHT AND LITTER WEIGHTS)
(GRAMS)
TARGET DOSE: 20,000 MG/M^3

ANIMAL NUMBER	SEX		Litter Weights		Fetus Weights Males	Fetus Weights Females
IGL410F	M	5.46 5.69 5.48 5.51 5.39 5.28	77.95	Mean	5.47	5.02
IGL410F	F	5.30 5.09 4.96 4.78 5.01 4.79 5.21 5.07 4.93		S.D.	0.14	0.17
IGL415F	M	6.13 6.08 5.99 5.67 6.07 5.82 6.26 5.75 5.88	92.33	Mean	5.96	5.53
IGL415F	F	5.66 5.49 5.57 5.46 5.50 5.52 5.48		S.D.	0.19	0.07
IGL444F	M	5.50 5.49 5.56 6.04 5.64	76.36	Mean	5.65	5.35
IGL444F	F	5.17 5.73 5.25 5.74 5.31 5.05 5.25 5.29 5.34		S.D.	0.23	0.24
IGL449F	M	6.00 5.58 4.75 6.00 6.08 6.10 5.84	83.54	Mean	5.76	5.40
IGL449F	F	4.45 5.39 5.77 5.47 5.69 5.56 5.55 5.31		S.D.	0.48	0.41
IGL451F	NP					
IGL458F	M	5.41 5.25 6.14 5.59 5.48 5.76	74.53	Mean	5.61	5.11
IGL458F	F	5.37 5.41 5.16 5.23 5.14 5.08 4.91 4.60		S.D.	0.31	0.26
IGL471F	M	5.73 5.59 5.96 5.92	59.69	Mean	5.80	5.21
IGL471F	F	5.30 5.41 5.67 5.27 5.39 5.54 3.91		S.D.	0.17	0.59
IGL424F	M	5.48 5.68 5.74 5.31 5.36 5.39 5.68 5.53	79.28	Mean	5.52	5.02
IGL424F	F	4.57 4.93 5.20 5.21 4.80 5.32 5.08		S.D.	0.16	0.26
IGL428F	M	5.53 5.31 5.67 4.86 5.90 5.14	82.42	Mean	5.40	5.00
IGL428F	F	4.83 5.12 4.64 5.02 5.46 5.22 4.55 5.17 5.08 4.92		S.D.	0.38	0.27
IGL439F	M	4.91 5.52 4.96 4.95 5.34 4.78 4.74 5.02 5.34	79.19	Mean	5.06	4.80
IGL439F	F	4.16 4.90 4.61 5.26 4.70 4.86 5.14		S.D.	0.27	0.36
			Mean 75.11			
			S.D. 12.34			

NOTE: NP- NOT PREGNANT

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
TOTAL FETUSES WITH EXTERNAL VARIATIONS	0/354	0/329	0/325	0/343
TOTAL LITTERS WIT`H EXTERNAL VARIATIONS	[0/25]	[0/23]	[0/24]	[0/24]
TOTAL FETUSES WITH EXTERNAL MALFORMATIONS	4/354	1/329	0/325	0/343
TOTAL LITTERS WITH EXTERNAL MALFORMATIONS	[4/25]	[1/23]	[0/24]	[0/24]
TOTAL FETUSES WITH VISCERAL VARIATIONS[a]	5/178	2/165	3/162	0/172
TOTAL LITTERS WITH VISCERAL VARIATIONS[a]	[3/25]	2/23]	[2/24]	[0/24]
TOTAL FETUSES WITH VISCERAL MALFORMATIONS[a]	5/178	4/165	1/162	2/172
TOTAL LITTERS WITH VISCERAL MALFORMATIONS[a]	[5/25]	[4/23]	[1/24]	[2/24]
TOTAL FETUSES WITH SKELETAL VARIATIONS[b]	39/176	29/165	42/163	42/171
TOTAL LITTERS WITH SKELETAL VARIATIONS[b]	[17/24]	[16/23]	[18/24]	[18/24]
TOTAL FETUSES WITH SKELETAL MALFORMATIONS	1/176	1/165	1/163	0/171
TOTAL LITTERS WITH SKELETAL MALFORMATIONS	[1/24]	[1/23]	[1/24]	[0/24]
EXTERNAL EXAMINATIONS				
- TOTAL FETUSES EXAMINED:	354	329	325	343
- TOTAL LITTERS EXAMINED:	[25]	[23]	[24]	[24]
INDIVIDUAL EXTERNAL OBSERVATIONS				
STUNTED (<4.0 grams)	4	1	1	9
	[4]	[1]	[1]	[5]
INDIVIDUAL EXTERNAL MALFORMATIONS				
CONJOINED TWIN	0	1	0	0
	[0]	[1]	[0]	[0]

a – Includes head observations
b – Includes calcaneus

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL EXTERNAL MALFORMATIONS (CONT'D)				
DOMED HEAD	1	0	0	0
	[1]	[0]	[0]	[0]
MALROTATED HIND PAW	2	0	0	0
	[2]	[0]	[0]	[0]
VISCERAL EXAMINATIONS				
- TOTAL FETUSES EXAMINED:	177	165	162	172
- TOTAL LITTERS EXAMINED:	[25]	[23]	[24]	[24]
INDIVIDUAL VISCERAL VARIATIONS				
MISSHAPEN SPLEEN	0	1	0	0
	[0]	[1]	[0]	[0]
UMBILICAL ARTERY ARISES FROM LEFT SIDE OF	4	1	3	0
URINARY BLADDER	[3]	[1]	[2]	[0]
INDIVIDUAL VISCERAL MALFORMATIONS				
ATRIAL CHAMBER LARGE	0	1	0	0
	[0]	[1]	[0]	[0]
CECUM NOT EVIDENT	0	1	0	0
	[0]	[1]	[0]	[0]
DOUBLE AORTA	0	1	0	0
	[0]	[1]	[0]	[0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL VISCERAL MALFORMATIONS (CONT'D)				
DUPLICATE TONGUE	0 [0]	1 [1]	0 [0]	0 [0]
INNOMINATE ELONGATED	0 [0]	1 [1]	0 [0]	0 [0]
INNOMINATE ABSENT	1 [1]	0 [0]	0 [0]	0 [0]
HYDRONEPHROSIS	2 [2]	1 [1]	0 [0]	0 [0]
HYDROURETER	2 [2]	1 [1]	0 [0]	0 [0]
LUNG SUPERNUMERARY LOBE	0 [0]	1 [1]	0 [0]	0 [0]
MALPOSITIONED CAROTID ARTERY	1 [1]	1 [1]	0 [0]	0 [0]
MALPOSITIONED SUBCLAVIAN ARTERY	1 [1]	1 [1]	0 [0]	0 [0]
MALPOSITIONED PULMONARY ARTERY	0 [0]	1 [1]	0 [0]	0 [0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL VISCERAL MALFORMATIONS (CONT'D)				
OPEN EYE	0	0	0	1
	[0]	[0]	[0]	[1]
RETINA FOLD	1	0	1	0
	[1]	[0]	[1]	[0]
SHARED ORGANS	0	1	0	0
	[0]	[1]	[0]	[0]
SPLEEN SMALL	0	1	0	0
	[0]	[1]	[0]	[0]
UMBILICAL ARTERY ANEURYSM	0	0	0	1
	[0]	[0]	[0]	[1]
VENTRICLE SMALL	0	1	0	0
	[0]	[1]	[0]	[0]
SKELETAL EXAMINATIONS				
- TOTAL FETUSES EXAMINED:	176	165	163	171
- TOTAL LITTERS EXAMINED:	[24]	[23]	[24]	[24]
INDIVIDUAL OSSIFICATION OBSERVATIONS				
CALCANEUS ADVANCED	1	0	0	0
	[1]	[0]	[0]	[0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL OSSIFICATION VARIATIONS				
SKULL				
HYPOPLASTIC	0 [0]	1 [1]	1 [1]	0 [0]
MISSHAPEN	0 [0]	1 [1]	0 [0]	0 [0]
STERNEBRAE				
ADVANCED	1 [1]	2 [2]	2 [1]	0 [0]
ASYMMETRIC	0 [0]	2 [2]	1 [1]	2 [1]
BIFID	0 [0]	1 [1]	0 [0]	1 [1]
DUMBBELL SHAPED	0 [0]	0 [0]	0 [0]	3 [1]
HYPOPLASTIC	0 [0]	0 [0]	1 [1]	1 [1]
MISSHAPEN	4 [3]	6 [4]	2 [2]	5 [5]
UNOSSIFIED	3 [3]	0 [0]	5 [3]	10 [6]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL OSSIFICATION VARIATIONS (CONT'D)				
FOREPAW				
UNOSSIFIED	1	0	0	0
	[1]	[0]	[0]	[0]
RIBS				
CERVICAL	1	0	0	0
	[1]	[0]	[0]	[0]
SHORT LAST THORACIC	2	0	1	0
	[2]	[0]	[1]	[0]
RUDIMENTARY LUMBAR	17	15	23	24
	[9]	[10]	[13]	[13]
WELL-FORMED LUMBAR	0	0	0	1
	[0]	[0]	[0]	[1]
VERTEBRAE				
CENTRA BIFID	7	6	6	5
	[6]	[6]	[3]	[5]
DUMBBELL-SHAPED CENTRA	3	1	3	2
	[3]	[1]	[2]	[2]
CENTRA MISSHAPEN	0	0	1	0
	[0]	[0]	[1]	[0]
CENTRA UNOSSIFIED	0	1	0	0
	[0]	[1]	[0]	[0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL OSSIFICATION VARIATIONS (CONT'D)				
VERTEBRAE (CONT'D)				
LUMBAR CENTRA DUMBBELL SHAPED	1	1	1	0
	[1]	[1]	[1]	[0]
INDIVIDUAL CARTILAGINOUS STRUCTURAL VARIATIONS				
FOREPAW ANLAGE				
MISSHAPEN	0	0	1	0
	[0]	[0]	[1]	[0]
RIB ANLAGE				
SUPERNUMERARY CERVICAL RIB	1	0	0	0
	[1]	[0]	[0]	[0]
VERTEBRAE ANLAGE				
CERVICAL CENTRA BIFID	0	0	0	1
	[0]	[0]	[0]	[1]
THORACIC CENTRA DUMBBELL SHAPED	12	4	9	3
	[8]	[4]	[5]	[3]
INDIVIDUAL OSSIFICATION MALFORMATIONS				
SKULL				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
PECTORAL GIRDLE				
CLAVICLE FUSED BETWEEN TWINS	0	1	0	0
	[0]	[1]	[0]	[0]
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL OSSIFICATION MALFORMATIONS (CONT'D)				
STERNEBRAE				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
FORELIMB				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
FOREPAW				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
RIBS				
FUSED BETWEEN TWINS	0	1	0	0
	[0]	[1]	[0]	[0]
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
VERTEBRAE				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
CERVICAL CENTRA FUSED	0	1	0	0
	[0]	[1]	[0]	[0]
THORACIC CENTRA HEMICENTRA	0	1	0	0
	[0]	[1]	[0]	[0]

APPENDIX H - FETAL OBSERVATIONS
(INCIDENCE OF FETAL OBSERVATIONS)

TARGET DOSE:	0 MG/M^3	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
INDIVIDUAL OSSIFICATION MALFORMATIONS (CONT'D)				
VERTEBRAE (CONT'D)				
THORACIC ONE LESS PRESACRAL	0	0	1	0
	[0]	[0]	[1]	[0]
PELVIC GIRDLE				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
HINDLIMB				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
HINDPAW				
DUPLICATE BONES	0	1	0	0
	[0]	[1]	[0]	[0]
INDIVIDUAL CARTILAGINOUS MALFORMATIONS				
RIB ANLAGE				
FUSED	1	0	0	0
	[1]	[0]	[0]	[0]

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL359F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			(c,d)
5	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8C	A	M	+			(a,b,e)
9	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			+
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/STERNEBRAE (V): Unossified
(b) - SKELETAL/RIBS (T13): Short last rib; Right
(c) - SKELETAL/VERTEBRAE (T11-12): Bifid centra
(d) - SKELETAL/VERTEBRAE (T11-12 Anlage): Dumbbell shaped centra
(e) - SKELETAL/VERTEBRAE (T9): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL360F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(b,c)
2	A	F	+	+	+	
3	A	F	+			(b,c)
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			+
8C	A	F	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
E						
14	A	F	+	+	+	
15	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; Left
(b) - SKELETAL/VERTEBRAE (T10-11): Bifid centra
(c) - SKELETAL/VERTEBRAE (T10-11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL370F

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	VISCERAL 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	+	+	+	
9C	A	F	+			(n)
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13*	D	M	(A,B,C,D,E,F,G)	(H,i)	(J,K,L,M)	
14	A	F	+	+	+	
15	A	M	+			(o)
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
(A) - EXTERNAL: Kyphosis
(B) - EXTERNAL: Ectrodactyly; all paws
(C) - EXTERNAL: Brachydactyly; all paws
(D) - EXTERNAL: Acaudate
(E) - EXTERNAL: Anal atresia
(F) - EXTERNAL: Anasarca
(G) - EXTERNAL: Small eye bulge; Bilateral
(H) - HEAD: Anophthalmia; Bilateral
(i) - HEAD: Dilated lateral ventricles; Bilateral
(J) - ABDOMEN/THORAX: Malpositioned uterus
(K) - ABDOMEN/THORAX: Malpositioned kidneys
(L) - ABDOMEN/THORAX: Malpositioned ovaries
(M) - ABDOMEN/THORAX: No cervical spinal column
(n) - SKELETAL/RIBS (L1): Rudimentary; Right
(o) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL374F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(b,c)
2	A	M	+	(A)	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	F	+			(d)
8	A	M	+	+	+	
9	A	F	+			+
E						
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
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) - HEAD: Retinal fold; Left
(b) - SKELETAL/VERTEBRAE (T11): Bifid centra
(c) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra
(d) - SKELETAL/VERTEBRAE (T9): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL395F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8C	A	F	+			+
9	A	F	+	+	+	
10	A	M	+			(a)
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	M	+			(b)

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

NOTE: Fetus numbers 4 and 6 assigned randomly.
(a) - SKELETAL/VERTEBRAE (T11-12 Anlage): Dumbbell shaped centra
(b) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL383F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	(a)	
4	A	M	+			+
5C	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	M	+			+
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) - ABDOMEN/THORAX: Umbilical artery arises from left side of urinary bladder

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL386F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			(b,c)
4	A	M	+	+	+	
5	A	M	+			+
6C	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			(a)
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/STERNEBRAE (VI): Advanced
(b) - SKELETAL/VERTEBRAE (T12): Bifid centra
(c) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL394

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

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

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
(b) - SKELETAL/STERNEBRAE (VI): Misshapen
(*) - SKELETAL/HINDPAW (Calcaneus): Advanced; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL402F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 1

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL 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	M	+			(h)
8	A	F	+	+	+	
9	A	M	+			(e)
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13*	A	M	(A)			(b,c,f,G,i)
14	A	F	+	+	+	
15	A	F	+			+
16	A	F	+	+	+	
17	A	F	+			(d,h)

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

NOTE:
* - Stunted
(A) - EXTERNAL: Domed head
(b) - SKELETAL/FOREPAW (Proximal phalanges 2-4): Unossified; Bilateral
(c) - SKELETAL/STERNEBRAE (IV-V): Unossified
(d) - SKELETAL/STERNEBRAE (VI): Misshapen
(e) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(f) - SKELETAL/RIBS (C7, C7 Anlage): Cervical rib; Bilateral
(G) - SKELETAL/RIBS (C7 and T1 Anlage): Fused; Anlage on C7 and T1 rib fused before it meets sternebrae
(h) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra
(i) - SKELETAL/VERTEBRAE (T10 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL411F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			(b)
7	A	F	+	+	+	
E						
8	A	M	+			+
9C	A	F	+	+	+	
10	A	F	+			(a)
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/STERNEBRAE (VI): Misshapen
(b) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL422F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			(b)
6	A	F	+	+	+	
7	A	F	+			(a)
8	A	M	+	+	+	
9C	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
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/RIBS (T13): Short last rib; Right
(b) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL347F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			(a)
7	A	M	+	+	+	
8	A	F	+			(a)
9C	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	M	+			+
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL427F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
E 1C	A	F	+	+	+	

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL400F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			(a)
6	A	F	+	+	+	
7	A	F	+			(a)
8	A	M	+	+	+	
9	A	F	+			(b)
10	A	M	+	+	+	
11C	A	M	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
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/RIBS (L1): Rudimentary; Bilateral
(b) - SKELETAL/VERTEBRAE (T10): Bifid centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL408F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+			+
2	A	F	+	+	+	
3	A	M	+			+
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	F	+	+	(a)	
15	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: Umbilical artery arises from left side of urinary bladder

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL393F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4C	A	M	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL419F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6C	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	F	+			(a,b)
13	A	M	+	+	+	
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/VERTEBRAE (T11): Bifid centra
(b) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL434F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	F	+			+
10C	A	M	+	+	+	
11	A	M	+			+
12	A	M	+	+	(A,B)	
13	A	F	+			+
L						
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:
(A) - ABDOMEN/THORAX: Hydroureter; Bilateral
(B) - ABDOMEN/THORAX: Hydronephrosis; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL445F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5*	A	M	+	+	+	
6C	A	M	+			+
7	A	M	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
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:
* - Stunted

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL446F

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

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			+
4	A	F	+	+	(a,B,C)	
5	A	M	+			+
6	A	M	+	+	+	
E						
7	A	F	+			+
8C	A	M	+	+	(a)	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			(d)
12	A	F	+	+	+	
E						
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) - ABDOMEN/THORAX: Umbilical artery arises from left side of urinary bladder
(B) - ABDOMEN/THORAX: Hydroureter; Left
(C) - ABDOMEN/THORAX: Hydronephrosis; Left
(d) - SKELETAL/STERNEBRAE (V): Unossified

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL465F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8C	A	F	(A)			+
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:
(A) - EXTERNAL: Malrotated hind paw; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL490F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 3 MALFORMATIONS: 0

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

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

NOTE:
* - Stunted
(A) - ABDOMEN/THORAX: Innominate artery absent
(B) - ABDOMEN/THORAX: Malpositioned carotid branch; Left
(C) - ABDOMEN/THORAX: Malpositioned carotid branch; Right
(D) - ABDOMEN/THORAX: Malpositioned subclavian branch; Right
(e) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL406F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5C	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	M	+			+
E						
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	M	+			+

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL418F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(a)
2	A	F	+	+	+	
3	A	F	+			(b,d)
E						
4	A	F	+	+	+	
5	A	M	+			(c)
6C	A	M	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			(a)
10	A	M	+	+	+	
11	A	F	+			+
12	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
(b) - SKELETAL/RIBS (L1): Rudimentary; Left
(c) - SKELETAL/RIBS (L1): Rudimentary; Right
(d) - SKELETAL/VERTEBRAE (L1): Dumbbell shaped centra; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 0 MG/M3

ANIMAL NUMBER: IGL474F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			(a)
4	A	F	+	+	+	
5	A	F	+			+
E						
6C	A	F	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	F	+			+
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/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL346F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7C	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL361F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6C	A	F	+			+
7	A	F	+	+	+	
8	A	M	+			(a,b)
9	A	F	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	F	+			+
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

NOTE:
(a) - SKELETAL/STERNEBRAE (VI): Advanced
(b) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL376F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	(a)	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	M	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
E						

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 left side of urinary bladder

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL381F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
E						
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
E						
6	A	M	+			(a,b)
E						
7	A	F	+	+	+	
8	A	F	+			+
9C	A	M	+	+	+	
E						
10	A	F	+			+
E						
11	A	F	+	+	+	
E						

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

NOTE: Fetus # 1 inadvertently eviscerated, therefore fetus # 1 received a skeletal exam and fetus # 2 received a visceral and head exam.
(a) - SKELETAL/VERTEBRAE (T10): Bifid centra
(b) - SKELETAL/VERTEBRAE (T10 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL405F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10C	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
14	A	M	+			+
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL382F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			(a)
6	A	M	+	+	+	
7C	A	F	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	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

NOTE:
(a) - SKELETAL/STERNEBRAE (VI): Misshapen

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL390F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			(a)
4	A	M	+	+	+	
5	A	M	+			+
6C	A	F	+	+	+	
7	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
E						
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) - SKELETAL/VERTEBRAE (T11): Bifid centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL358F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9C	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	M	+			+
14	A	F	+	+	+	
15	A	M	+			+
16	A	F	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL398F

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	VISCERAL 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	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			(a)
12	A	M	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL350F

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	VISCERAL 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	M	+			+
8C	A	M	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL353F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 5 MALFORMATIONS: 1

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	(A)		(B-K,*)	(L,N,O,P,Q,R,s,t,u,W,X,z) (AA,BB,cc,DD,ee,FF,GG,HH)
3	A	F	+	+	+	
4	A	F	+			(m,y)
5	A	M	+	+	+	
6	A	M	+			(v)
7	A	F	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10C	A	M	+			(v)
11	A	F	+	+	+	
12	A	M	+			(v)
13	A	M	+	+	+	
14	A	F	+			+
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:
(A) - EXTERNAL: Conjoined twin; Joined at thoracic region; 1 head, 8 limbs, 2 tails, 1 umbilicus
(B) - ABDOMEN/THORAX: Liver, stomach, spleen, entire small intestine shared
(C) - ABDOMEN/THORAX: Spleen small
(D) - ABDOMEN/THORAX: Cecum not evident; bifurcation appears in area where cecum would normally reside
(E) - ABDOMEN/THORAX: All thoracic and cranial organs shared
(F) - ABDOMEN/THORAX: Supernumerary lung lobe; Left
(G) - ABDOMEN/THORAX: Double aorta
(H) - ABDOMEN/THORAX: Malpositioned carotid and subclavian branches; Bilateral
(I) - ABDOMEN/THORAX: Malpositioned pulmonary artery branch
(J) - ABDOMEN/THORAX: Ventricle small; Left
(K) - ABDOMEN/THORAX: Duplicate tongue
(*) - ABDOMEN/THORAX: All other abdominal organs appear on each side

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGL353F (cont'd)

(L) - SKELETAL/SKULL (Supraoccipital,Interparietal,Parietals,Frontals,Nasals): Duplication or extra bones
(m) - SKELETAL/SKULL (Interparietal): Misshapen
(N) - SKELETAL/PECTORAL GIRDLE (Clavicle): Right side of left twin fused to left side of right twin
(O) - SKELETAL/PECTORAL GIRDLE (All bones): Duplication or extra bones; Bilateral
(P) - SKELETAL/FORELIMB (All bones): Duplication or extra bones
(Q) - SKELETAL/FOREPAW (All bones): Duplication or extra bones
(R) - SKELETAL/STERNEBRAE (All bones): Duplication or extra bones
(s) - SKELETAL/STERNEBRAE (Left twin III): Misshapen
(t) - SKELETAL/STERNEBRAE (Left twin IV): Bifid
(u) - SKELETAL/STERNEBRAE (Right twin I,IV): Asymmetric form
(v) - SKELETAL/STERNEBRAE (VI): Misshapen
(W) - SKELETAL/RIBS (All bones): Duplication or extra bones
(X) - SKELETAL/RIBS (Right twin T8 left, Left twin T8 right): Fused; Left
(y) - SKELETAL/RIBS (L1): Rudimentary; Right
(z) - SKELETAL/RIBS (Left twin L1): Rudimentary; Right
(AA) - SKELETAL/VERTEBRAE (All bones): Duplication or extra bones
(BB) - SKELETAL/VERTEBRAE (Left twin CE 1-7): Fused
(cc) - SKELETAL/VERTEBRAE (Left twin T2): Unossified centra
(DD) - SKELETAL/VERTEBRAE (Left twin T3): Hemicentra
(ee) - SKELETAL/VERTEBRAE (Left twin T11): Bifid centra
(FF) - SKELETAL/PELVIC GIRDLE (All bones): Duplication or extra bones; Bilateral
(GG) - SKELETAL/HINDLIMB (All bones): Duplication or extra bones; Bilateral
(HH) - SKELETAL/HINDPAW (All bones): Duplication or extra bones; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL420F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
E						
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	M	+			+

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL388F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			(a)
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			+
8C	A	F	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
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:
(a) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL413F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			(b)
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	M	+	+	+	
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) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(b) - SKELETAL/VERTEBRAE (T11): Bifid centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL414F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			(a,b)
6	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9C	A	F	+			+
10	A	F	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
E						
E						
13	A	M	+			+
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
(b) - SKELETAL/VERTEBRAE (L1): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL433F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 1
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 5 MALFORMATIONS: 0

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

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

NOTE:
* - Stunted
(A) - ABDOMEN/THORAX: Enlarged atrial chamber; Right
(b) - SKELETAL/STERNEBRAE (VI): Misshapen
(c) - SKELETAL/RIBS (L1): Rudimentary; Left
(d) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(e) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL441F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			(a)
3	A	M	+	+	+	
E						
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	M	+			+
9C	A	M	+	+	+	
10	A	M	+			(b)
11	A	F	+	+	+	
12	A	F	+			+
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

NOTE:
(a) - SKELETAL/STERNEBRAE (VI): Advanced
(b) - SKELETAL/STERNEBRAE (IV): Asymmetric form

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL457F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			(a)
3	A	M	+	+	+	
4	A	M	+			(b)
5	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8C	A	M	+			+
9	A	M	+	+	+	
10	A	F	+			(a)
E						
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/RIBS (L1): Rudimentary; Left
(b) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL466F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	F	+			+
6	A	M	+	+	+	
7C	A	F	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	M	+			(a)
E						
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3
ANIMAL NUMBER: IGL475F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1C	A	F	+	+	+	
2	A	F	+			(a,b)
3	A	M	+	+	+	
4	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 (T11): Bifid centra
(b) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL488F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	F	+	+	+	
3C	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL432F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	F	+			(b)
6	A	F	+	+	+	
7	A	M	+			+
8	A	M	+	+	+	
9C	A	M	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	F	+	+	(A)	
15	A	F	+			+
16	A	M	+	+	+	
17	A	F	+			(c)
18	A	M	+	+	+	
19	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: Elongated innominate artery
(b) - SKELETAL/SKULL (Squamosal Process): Hypoplastic; Left
(c) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 2000 MG/M3

ANIMAL NUMBER: IGL477F

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

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	(a)	
2	A	F	+			+
3	A	F	+	+	+	
4	A	M	+			+
5C	A	F	+	+	+	
6	A	F	+			(d,e)
7	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	(B,C)	
10	A	M	+			+
11	A	F	+	+	+	
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) - ABDOMEN/THORAX: Misshapen spleen
(B) - ABDOMEN/THORAX: Hydroureter; Left
(C) - ABDOMEN/THORAX: Hydronephrosis; Left
(d) - SKELETAL/VERTEBRAE (T11): Bifid centra
(e) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL379F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	F	+			(a)
3	A	M	+	+	+	
4C	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			(a)
7	A	M	+	+	+	
8	A	F	+			(b)
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	M	+			+
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL389F

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	VISCERAL 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	M	+	+	+	
8	A	M	+			+
9C	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL391F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
E						
4	A	M	+			+
5	A	F	+	+	+	
E						
6	A	M	+			+
7C	A	F	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			(a)
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/STERNEBRAE (V): Unossified

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL352F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	M	+			(b)
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7C	A	M	+			+
8	A	F	+	+	+	
9	A	M	+			(a)
E						
10	A	F	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	F	+			+
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/SKULL (Tympanics): Hypoplastic
(b) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL355F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			(c,e,f)
3	A	M	+	+	+	
4	A	F	+			(c)
5	A	F	+	+	+	
6	A	M	+			(a,d,g,h,i)
7	A	M	+	+	+	
8	A	F	+			(c)
9C	A	F	+	+	+	
10*	A	M	+			(a)
11	A	F	+	+	+	
12	A	F	+			(a)
13	A	M	+	+	+	
14	A	M	+			+
15	A	F	+	+	+	
16	A	F	+			(b)
17	A	M	+	+	+	

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 (III-IV): Asymmetric form
(c) - SKELETAL/RIBS (L1): Rudimentary; Left
(d) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(e) - SKELETAL/VERTEBRAE (T13): Bifid centra
(f) - SKELETAL/VERTEBRAE (T13 Anlage): Dumbbell shaped centra
(g) - SKELETAL/VERTEBRAE (T11): Bifid centra
(h) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra
(i) - SKELETAL/VERTEBRAE (L1): Misshapen centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL417F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+	+	+	
2	A	M	+			(a)
3	A	M	+	+	+	
4	A	F	+			(b)
5	A	F	+	+	+	
6	A	M	+			+
7C	A	M	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	
12	A	F	+			+
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL378F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
L						
1	A	M	+			(a)
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7C	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
E						
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/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL380F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			(a)
6	A	M	+	+	+	
7C	A	F	+			+
8	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
15	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 (VI): Advanced

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL348F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
E						
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9C	A	M	+			+
10	A	M	+	(A)	+	
11	A	M	+			(b)
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	

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

NOTE: Fetus numbers 3 and 5 found with identification tags detached, numbers arbitrarily assigned for skeletal exams
(A) - HEAD: Retinal fold; Right
(b) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL430F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4C	A	M	+	+	+	

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL409F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8C	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL421F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4C	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
E						
8	A	F	+			+
9	A	M	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL423F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
EC						
11	A	M	+	+	+	
12	A	F	+			+
13	A	F	+	+	+	
14	A	F	+			+
15	A	M	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL440F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3C	A	M	+			+
4	A	M	+	+	+	
5	A	F	+			(a)
6	A	M	+	+	+	
7	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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL399F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	F	+			(b,c)
5	A	M	+	+	+	
6	A	F	+			(d,e)
7C	A	F	+	+	+	
8	A	M	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			(a)
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/STERNEBRAE (VI): Misshapen
(b) - SKELETAL/VERTEBRAE (T12): Bifid centra
(c) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra
(d) - SKELETAL/VERTEBRAE (T11-12): Bifid centra
(e) - SKELETAL/VERTEBRAE (T11-12 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL452F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			(a)
6C	A	F	+	+	+	
7	A	M	+			(b)
8	A	M	+	+	+	
9	A	M	+			+
E						
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	F	+			+
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/STERNEBRAE (VI): Misshapen
(b) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL436F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
EC						
7	A	F	+			+
8	A	M	+	+	+	
9	A	M	+			(a,b,c)
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
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

NOTE:
(a) - SKELETAL/STERNEBRAE (V): Unossified
(b) - SKELETAL/VERTEBRAE (T8): Dumbell centra
(c) - SKELETAL/VERTEBRAE (T8 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL454F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(a)
2	A	M	+	+	+	
3	A	M	+			(b)
E						
4	A	F	+	+	+	
5	A	F	+			+
6	A	F	+	+	+	
7	A	F	+			(a)
8C	A	F	+	+	+	
9	A	F	+			(c)
E						
10	A	F	+	+	+	
11	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; Left
(b) - SKELETAL/RIBS: (L1): Rudimentary; Bilateral
(c) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL461F

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

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	M	+	+	+	
6C	A	F	+			(b)
7	A	F	+	+	+	
8	A	M	+			(c)
9	A	F	+	+	(a)	
10	A	M	+			+
11	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 left side of urinary bladder
(b) - SKELETAL/FOREPAW (Metacarpal 1 anlage): Misshapen; Left
(c) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL469F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
C1	A	F	+	+	+	
2	A	M	+			+

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL470F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(b,c)
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	M	+			(d,e,f)
8	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12C	A	M	+	+	+	
13	A	F	+			(g)
14	A	M	+	+	+	
15	A	F	+			+
16	A	M	+	+	+	
17	A	M	+			(a,h)
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/RIBS (L1): Rudimentary; Left
(b) - SKELETAL/VERTEBRAE (T10): Bifid centra
(c) - SKELETAL/VERTEBRAE (T10 Anlage): Dumbbell shaped centra
(d) - SKELETAL/VERTEBRAE (T8): Dumbbell shaped centra
(e) - SKELETAL/VERTEBRAE (T11): Bifid centra
(f) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra
(g) - SKELETAL/VERTEBRAE (T10-11 Anlage): Dumbbell shaped centra
(h) - SKELETAL/VERTEBRAE (L1): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3
ANIMAL NUMBER: IGL473F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
E						
4	A	F	+			(a)
5	A	F	+	+	+	
6	A	F	+			+
7C	A	M	+	+	+	
8	A	F	+			+
9	A	F	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			(b)
13	A	M	+	+	+	
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; Left
(b) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL407F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 2 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 3 MALFORMATIONS: 0

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

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 left side of urinary bladder
(b) - SKELETAL/STERNEBRAE (VI): Hypoplastic
(c) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 10000 MG/M3

ANIMAL NUMBER: IGL442F

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: 1

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	F	+	+	+	
5C	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	F	+			(a,B)
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/RIBS (T13): Short last rib; Right
(B) - SKELETAL/VERTEBRAE (L): One less presacral vertebrae

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGL364F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	F	+			+
6C	A	M	+	+	+	
7	A	M	+			(a)
8	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	M	+	+	+	
15	A	F	+			(a)
16	A	M	+	+	+	
17	A	F	+			(b)

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
(b) - SKELETAL/RIBS (L1): Rudimentary; Bilateral

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL367F

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	VISCERAL 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	F	+	+	+	
8C	A	M	+			(a)
9	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	M	+			(b)
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/STERNEBRAE (V): Unossified
(b) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL368F

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	VISCERAL 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	+			+
8C	A	F	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	M	+	+	+	
13	A	F	+			(a)
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
(a) - SKELETAL/VERTEBRAE (T9): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL375F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
L						
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	F	+			(c)
5	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8C*	A	M	+			(a,b)
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	+	

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): Misshapen
(c) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL363F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4C	A	M	+			(a)
5	A	M	+	+	+	
6	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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL373F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			(a,b)
3	A	M	+	+	+	
E						
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	F	+	+	+	
8C	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	F	+			+
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 (T11): Bifid centra
(b) - SKELETAL/VERTEBRAE (T6): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL397F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10	A	M	+			+
11C	A	F	+	+	+	
12	A	M	+			+
13	A	F	+	+	+	
14	A	F	+			(a)
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/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL357F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 5 MALFORMATIONS: 0

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

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

NOTE:
* - Stunted
(a) - SKELETAL/STERNEBRAE (II-IV): Dumbbell-shaped
(b) - SKELETAL/STERNEBRAE (V-VI): Unossified
(c) - SKELETAL/STERNEBRAE (V): Unossified
(d) - SKELETAL/STERNEBRAE (VI): Asymmetric form
(e) - SKELETAL/STERNEBRAE (IV): Dumbbell-shaped

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGL369F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			(a)
3	A	F	+	+	+	
4	A	M	+			+
E						
5C	A	F	+	+	+	
6	A	M	+			+
7	A	M	+	+	+	
8	A	F	+			(c)
9	A	F	+	+	+	
10	A	F	+			+
11	A	F	+	+	+	
12	A	F	+			(b)
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/STERNEBRAE (V): Unossified
(b) - SKELETAL/STERNEBRAE (VI): Misshapen
(c) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL404F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			+
2	A	F	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6C	A	F	+	+	+	
7	A	F	+			+
8	A	F	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL365F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	M	+			+
5	A	F	+	+	+	
6	A	F	+			+
E						
7C	A	M	+	+	+	
8	A	F	+			+
9	A	M	+	+	+	
10	A	F	+			+
11	A	M	+	+	+	
12	A	M	+			+
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL366F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1*	A	F	+			(b,c,d,e)
2	A	M	+	+	+	
3	A	F	+			+
4	A	F	+	(A)	+	
5	A	M	+			+
6	A	M	+	+	+	
7C	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	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

NOTE:
* - Stunted
(A) - HEAD: Open eye; Right
(b) - SKELETAL/STERNEBRAE (II,III,VI): Hypoplastic
(c) - SKELETAL/STERNEBRAE (V): Unossified
(d) - SKELETAL/STERNEBRAE (IV): Bifid
(e) - SKELETAL/RIBS (L1): Rudimentary; Left

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL372F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL396F

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	VISCERAL 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	F	+	+	+	
9	A	F	+			+
10	A	F	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGL371F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	M	+			(a)
5	A	F	+	+	+	
6	A	M	+			+
7	A	F	+	+	+	
8	A	M	+			(b)
EC						
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:
(a) - SKELETAL/RIBS (L1): Rudimentary; Left
(b) - SKELETAL/RIBS (L1): Rudimentary; Right

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGL410F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	M	+			(b)
2	A	M	+	+	+	
3	A	F	+			(c)
4	A	F	+	+	+	
5	A	F	+			(a,d)
6	A	F	+	+	+	
7	A	F	+			+
8C	A	M	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			(c,e,f,g)
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/STERNEBRAE (VI): Misshapen
(b) - SKELETAL/RIBS (L1): Rudimentary; Bilateral
(c) - SKELETAL/RIBS (L1): Rudimentary; Right
(d) - SKELETAL/RIBS (L1): Rudimentary; Left
(e) - SKELETAL/RIBS (L1): Well-formed; Left
(f) - SKELETAL/VERTEBRAE (T12): Bifid centra
(g) - SKELETAL/VERTEBRAE (T12 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL415F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8C	A	F	+			+
9	A	M	+	+	+	
10	A	M	+			+
11	A	M	+	+	(A)	
12	A	F	+			+
13	A	M	+	+	+	
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) - ABDOMEN/THORAX: Umbilical artery aneurysm

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL444F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			+
2	A	M	+	+	+	
3	A	F	+			+
4	A	M	+	+	+	
5	A	M	+			+
6	A	F	+	+	+	
7C	A	M	+			(a,c,d)
8	A	F	+	+	+	
9	A	M	+			+
10	A	F	+	+	+	
11	A	F	+			(b)
12	A	F	+	+	+	
13	A	F	+			(b)
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/STERNEBRAE (V): Misshapen
(b) - SKELETAL/RIBS (L1): Rudimentary; Left
(c) - SKELETAL/VERTEBRAE (T11): Bifid centra
(d) - SKELETAL/VERTEBRAE (T11 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL449F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	M	+			+
3	A	F	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6	A	F	+			+
7	A	M	+	+	+	
8	A	M	+			(a)
9	A	F	+	+	+	
10C	A	F	+			+
11	A	F	+	+	+	
12	A	M	+			(b)
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; Left
(b) - SKELETAL/VERTEBRAE (CE3 Anlage): Bifid centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL458F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+			+
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5C	A	F	+			+
6	A	M	+	+	+	
7	A	M	+			+
8	A	F	+	+	+	
9	A	F	+			+
10	A	M	+	+	+	
11	A	M	+			+
12	A	F	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL471F

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	VISCERAL		SKELETAL
				HEAD	ABDOMEN/THORAX	
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	F	+	+	+	
6C	A	M	+			+
7	A	F	+	+	+	
8	A	M	+			+
9	A	F	+	+	+	
10*	A	F	+			+
11	A	M	+	+	+	

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

NOTE:
* - Stunted

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3
ANIMAL NUMBER: IGL424F

NUMBER OF FETUSES WITH EXTERNAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH VISCERAL VARIATIONS: 0 MALFORMATIONS: 0
NUMBER OF FETUSES WITH SKELETAL VARIATIONS: 4 MALFORMATIONS: 0

FETUS NO.	STATUS	SEX	EXTERNAL	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(a)
2	A	F	+	+	+	
3	A	M	+			(b)
E						
4	A	M	+	+	+	
5	A	M	+			(c,d)
6	A	F	+	+	+	
7C	A	M	+			+
8	A	M	+	+	+	
9	A	M	+			+
10	A	M	+	+	+	
11	A	F	+			+
12	A	M	+	+	+	
13	A	F	+			+
14	A	F	+	+	+	
15	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
(b) - SKELETAL/STERNEBRAE (VI): Misshapen
(c) - SKELETAL/VERTEBRAE (T10): Bifid centra
(d) - SKELETAL/VERTEBRAE (T10 Anlage): Dumbbell shaped centra

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL428F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+			(a)
2	A	M	+	+	+	
3	A	M	+			+
4	A	F	+	+	+	
5	A	M	+			+
6	A	M	+	+	+	
7	A	F	+			(a)
8	A	F	+	+	+	
EC						
9	A	F	+			+
10	A	F	+	+	+	
11	A	F	+			+
12	A	F	+	+	+	
13	A	M	+			+
14	A	M	+	+	+	
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

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

APPENDIX H - INDIVIDUAL FETAL OBSERVATIONS
(ABBREVIATIONS PRESENTED BELOW OBSERVATIONS)

TARGET DOSE: 20000 MG/M3

ANIMAL NUMBER: IGL439F

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	VISCERAL HEAD	VISCERAL ABDOMEN/THORAX	SKELETAL
1	A	F	+	+	+	
2	A	F	+			+
3	A	M	+	+	+	
4	A	F	+			+
5	A	M	+	+	+	
6	A	F	+			(a)
7	A	M	+	+	+	
8	A	M	+			+
9C	A	F	+	+	+	
10	A	M	+			+
11	A	F	+	+	+	
12	A	M	+			+
13	A	M	+	+	+	
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 (T11): Bifid centra

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 and had a total volume of approximately 1.0 m^3. They were operated at an airflow rate of 200 liters per minute ensuring 12 air changes per hour and a theoretical equilibration time (T_{99}) 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.

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 schematical 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.

LIGHTING, NOISE AND OXYGEN LEVELS

Table I-5 presents a summary of the lighting, noise, and oxygen level data.

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 room. Light intensity was measured in the animal room in a cage approximately three feet above the floor level. In the chamber room 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.

PARTICLE SIZE ANALYSIS.

Table I-6 presents a summary of the particle size data.

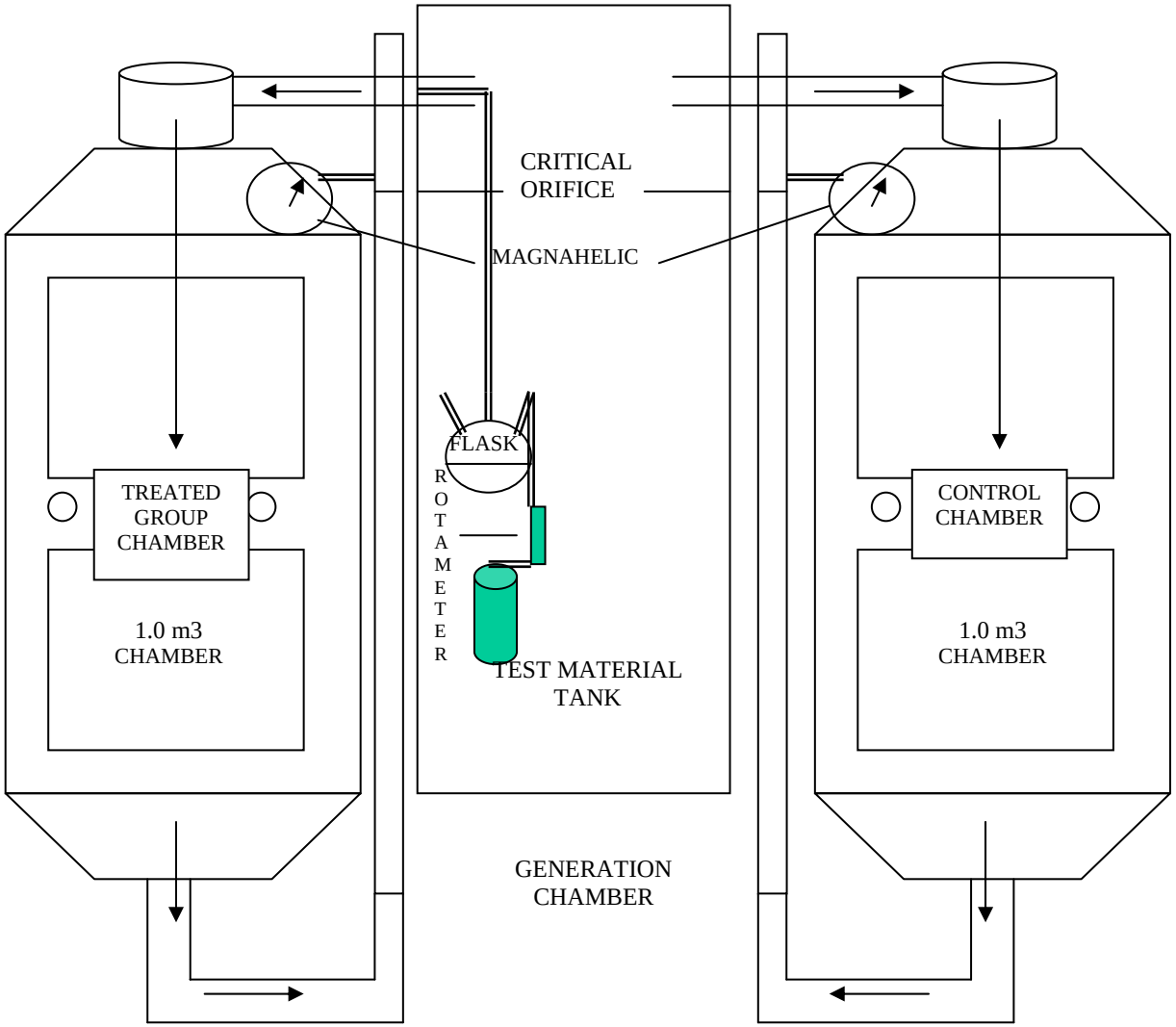
A particle size determination of the aerosol portion of the test atmosphere was conducted during the chamber trials from the control and 20,000 mg/m^3 target concentration chambers. The particle size sampling indicated aerosol concentrations of 0 and 20 mg/m^3 for the control and 20,000 $mg.m^3$ target concentration chambers. These small concentrations of aerosol were likely due to animal hair or dander.

The sample was taken using a multistage cascade impactor. Preweighed glass fiber filters were used to collect aerosol on each stage. Each stage was associated with specific cutoff diameters for aerodynamic particle size in microns.

The flow of air and the duration of the flow were recorded in the data. This provided the information needed to convert the amount of aerosol captured in the cascade impactor to a chamber concentration.

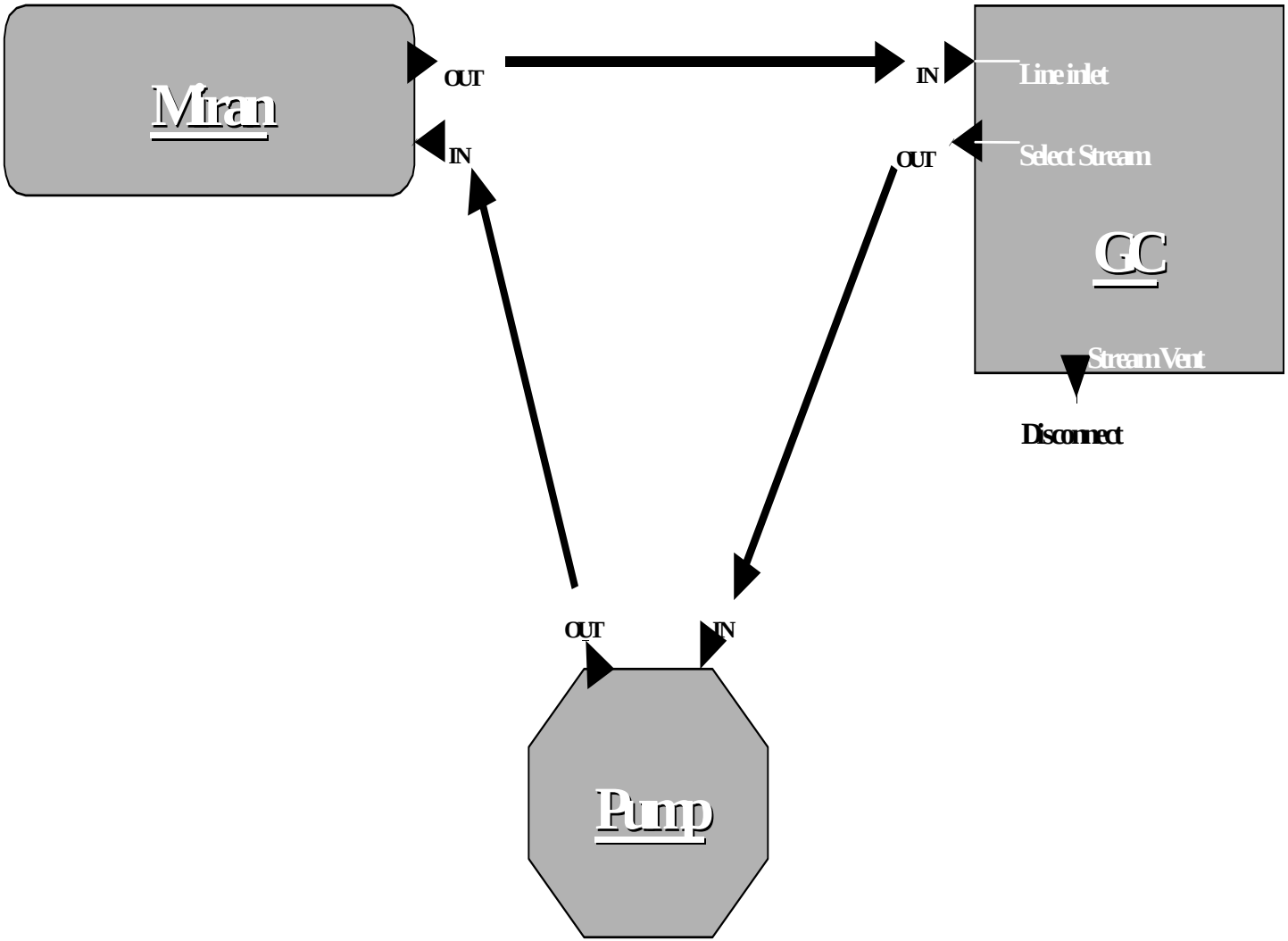
APPENDIX I - INHALATION EXPOSURE DATA

FIGURE I-1 - SCHEMATIC OF GENERATION AND EXPOSURE SYSTEM



APPENDIX I - INHALATION EXPOSURE DATA

FIGURE I-2 - SCHEMATIC OF 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	1988	10327	20541
Average Chamber Temperature (^{O}F)	69	72	75	72
Average Chamber Relative Humidity (% RH)	62	58	54	58

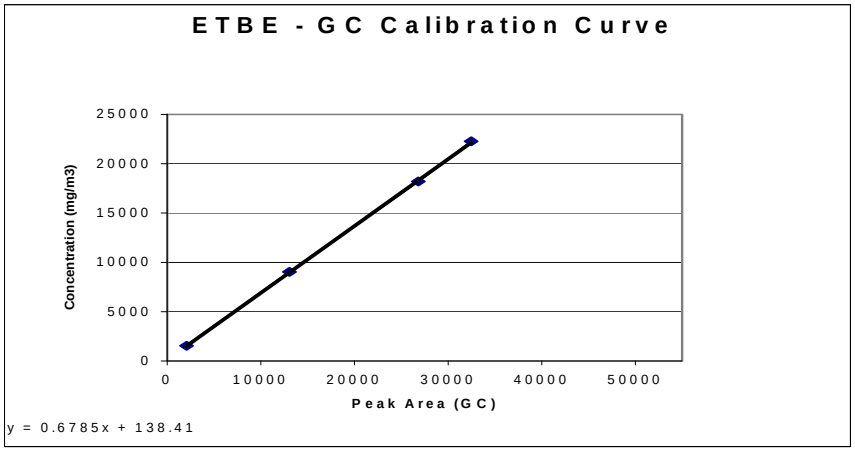
APPENDIX I - INHALATION EXPOSURE DATA

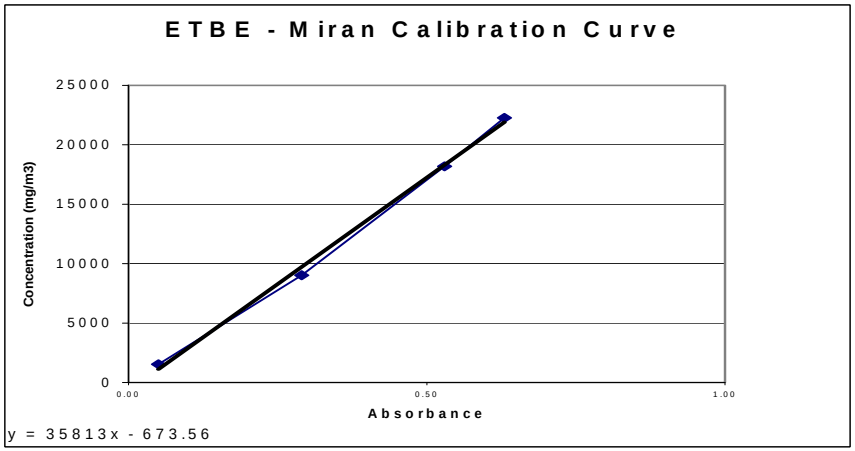
TABLE I-2 - GAS CHROMATOGRAPH OPERATING CONDITIONS

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 CURVES





APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA

	Group 1				Group 2				Group 3				Group 4			
Date	Mean	Nominal	Chamber		Mean	Nominal	Chamber		Mean	Nominal	Chamber		Mean	Nominal	Chamber	
	(mg/m^3)	(mg/m^3)	^{o}F	% Rh	(mg/m^3)	(mg/m^3)	^{o}F	% Rh	(mg/m^3)	(mg/m^3)	^{o}F	% Rh	(mg/m^3)	(mg/m^3)	^{o}F	% Rh
27-Apr-02	0	0	67	64	1733	2088	69	59	10392	10360	71	58	21400	19922	69	59
28-Apr-02	0	0	68	64	1991	2089	70	58	10622	9388	74	51	21646	19743	70	57
29-Apr-02	0	0	68	55	2179	1933	70	50	10699	10363	74	47	21121	19524	70	57
30-Apr-02	0	0	68	65	2050	1950	70	58	10443	10272	73	58	21167	19432	70	59
1-May-02	0	0	70	59	1979	2375	71	58	10736	10581	75	49	20984	19547	72	55
2-May-02	0	0	69	64	2076	2069	71	64	10293	10335	75	54	20177	18992	72	61
3-May-02	0	0	70	58	1929	1924	72	61	10304	10297	76	50	21320	19390	72	58
4-May-02	0	0	68	64	2016	1736	71	61	9793	9913	74	59	20473	19208	72	56
5-May-02	0	0	68	64	1967	1924	74	52	10652	10435	75	53	20603	19501	72	58
6-May-02	0	0	69	70	1913	1896	71	69	9762	10168	75	61	20594	19035	72	65
7-May-02	0	0	70	65	1965	1981	73	62	10297	10306	76	57	20438	19501	73	61
8-May-02	0	0	70	62	1910	1914	72	59	9816	10056	75	58	19934	18799	73	61
9-May-02	0	0	70	58	1965	1856	73	59	10389	10632	75	57	20077	19921	71	62
10-May-02	0	0	70	65	2022	1976	73	60	10224	10246	76	55	19785	18965	73	62
11-May-02	0	0	71	65	1941	1953	75	59	10367	10443	76	55	20145	19547	74	59
12-May-02	0	0	70	69	2134	2032	74	59	10270	10435	75	61	20100	19274	74	66
13-May-02	0	0	70	72	1943	1956	74	59	10232	10364	76	59	20057	19578	74	61
14-May-02	0	0	70	55	2076	2018	72	50	10441	10611	76	47	20251	19531	73	49
15-May-02	0	0	69	61	2034	2032	72	57	10422	10646	75	54	20642	19526	73	54
16-May-02	0	0	68	58	1982	1969	70	58	10565	10789	75	52	20162	19350	71	54
17-May-02	0	0	68	64	2008	2093	70	58	10431	10606	74	54	20615	19790	71	58
18-May-02	0	0	68	59	1909	2244	71	51	9805	10442	74	50	20649	19551	71	54
19-May-02	0	0	68	65	1906	1936	72	58	10598	10763	73	59	20386	19767	71	58
20-May-02	0	0	66	63	2032	1988	70	58	10173	10385	73	53	21014	20071	70	58
21-May-02	0	0	67	54	2033	2035	69	56	10449	10628	74	47	19793	19257	70	54
MEAN	0	0	69	62	1988	1999	72	58	10327	10379	75	54	20541	19469	72	58
S.D.	0	0	1.3	4.6	87.7	124.2	1.6	4.2	280.2	293.4	1.2	4.4	518.3	314.5	1.4	3.8
Minimum	0	0	66	54	1733	1736	69	50	9762	9388	71	47	19785	18799	69	49
Maximum	0	0	71	72	2179	2375	75	69	10736	10789	76	61	21646	20071	74	66

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 1 - 0 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Concentration (mg/m^3)	Mean Analytical Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
27-Apr-02	1	0	0	67	64
28-Apr-02	2	0	0	68	64
29-Apr-02	3	0	0	68	55
30-Apr-02	4	0	0	68	65
1-May-02	5	0	0	70	59
2-May-02	6	0	0	69	64
3-May-02	7	0	0	70	58
4-May-02	8	0	0	68	64
5-May-02	9	0	0	68	64
6-May-02	10	0	0	69	70
7-May-02	11	0	0	70	65
8-May-02	12	0	0	70	62
9-May-02	13	0	0	70	58
10-May-02	14	0	0	70	65
11-May-02	15	0	0	71	65

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 1 - 0 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Concentration (mg/m^3)	Mean Analytical Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
12-May-02	16	0	0	70	69
13-May-02	17	0	0	70	72
14-May-02	18	0	0	70	55
15-May-02	19	0	0	69	61
16-May-02	20	0	0	68	58
17-May-02	21	0	0	68	64
18-May-02	22	0	0	68	59
19-May-02	23	0	0	68	65
20-May-02	24	0	0	66	63
21-May-02	25	0	0	67	54
Mean		0	0	69	62
S.D.		0	0	1.3	4.6

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 2 - 2000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentrations (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
27-Apr-02	1	2088	2103	2128	1891	1498	1733	1042	1733[a]	69	59
28-Apr-02	2	2089	2159	1916	2035	2017	1785	2032	1991	70	58
29-Apr-02	3	1933	2135	2215	2274	2203	2149	2099	2179	70	58
30-Apr-02	4	1950	1923	2066	2074	2090	2178	1970	2050	70	58
1-May-02	5	2375	2020	2049	1874	2263	2051	1615	1979	71	58
2-May-02	6	2069	2101	2269	1978	2092	1898	2120	2076	71	64
3-May-02	7	1924	591	2222	2393	2076	2064	2225	1929	72	61
4-May-02	8	1736	1941	2028	1968	1979	1969	2212	2016	71	61
5-May-02	9	1924	2052	1795	2064	1987	1913	1989	1967	74	52
6-May-02	10	1896	1805	2052	1937	1902	1819	1965	1913	71	69
7-May-02	11	1981	2002*	1972	2029	1964	1879	1946	1965	73	62
8-May-02	12	1914	2022	2058	1953	1867	1746	1812	1910	72	59
9-May-02	13	1856	1875	2117	2034	1943	1918	1905	1965	73	59
10-May-02	14	1976	1992	1963	1927	2113	2051	2085	2022	73	60
11-May-02	15	1953	1915	1777	1986	2037	1914	2019	1941	75	59

a – Low value due to problems with the rotameter
* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 2 - 2000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentrations (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
12-May-02	16	2032	2099	2099	2238	2110	2201	2058	2134	74	59
13-May-02	17	1956	1797	2044	2035	2112	2004	1663	1943	74	59
14-May-02	18	2018	2294	1988	2065	2048	1825	2238	2076	72	50
15-May-02	19	2032	1964	2078	2081	2142	2082	1859	2034	72	57
16-May-02	20	1969	2204	2131	2050	1623	1797	2089	1982	70	58
17-May-02	21	2093	2016	1977	2051	2041	2104	1858	2008	70	58
18-May-02	22	2244	1492	2346	1787	1858	2003	1966	1909	71	51
19-May-02	23	1936	1893	1861	1759	1784	2054	2085	1906	72	58
20-May-02	24	1988	2041	2177	2045	2073	1946	1912	2032	70	58
21-May-02	25	2035	1939	2112	2119	2020	2094	1913	2033	69	56
MEAN		1999							1988	72	58
S.D.		124.2							87.7	1.7	3.8

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 3 - 10,000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentration (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
27-Apr-02	1	10360	10533	10729	8758	10228	11168	10937	10392	71	58
28-Apr-02	2	9388	10829	9642	9711	11446	10142	11960	10622	74	51
29-Apr-02	3	10363	10510	11120	11077	10638	10446	10405	10699	74	47
30-Apr-02	4	10272	9950	9289	11872	10315	10541	10691	10443	73	58
1-May-02	5	10581	9829	10506	11152	10795	11065	11068	10736	75	49
2-May-02	6	10335	10172	10378	10258	10357	10393	10202	10293	75	54
3-May-02	7	10297	10000	10292	10727	10374	10522	9906	10304	76	50
4-May-02	8	9913	9753	10292	11027	7441	9886	10357	9793	74	59
5-May-02	9	10435	10748	10508	10788	10802	10290	10777	10652	75	53
6-May-02	10	10168	9746	9073	10210	9397	10114	10029	9762	75	61
7-May-02	11	10306	11503*	10241	10112	10047	10012	9867	10297	76	57
8-May-02	12	10056	9346	9589	10209	9670	10041	10042	9816	75	58
9-May-02	13	10632	10227	10262	10671	10553	10346	10276	10389	75	57
10-May-02	14	10246	10185	9932	10648	10116	10135	10329	10224	76	55
11-May-02	15	10443	10078	10575	10666	10333	10090	10463	10367	76	55

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 3 - 10,000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentration (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
12-May-02	16	10435	9945	9988	10161	10471	10579	10474	10270	75	61
13-May-02	17	10364	9900	10068	10249	10655	10209	10309	10232	76	59
14-May-02	18	10611	10147	10293	10392	10403	10649	10763	10441	76	47
15-May-02	19	10646	9513	10424	10249	10989	10762	10595	10422	75	54
16-May-02	20	10789	10412	10416	10719	10693	10660	10493	10565	75	52
17-May-02	21	10606	10172	10584	10214	10408	10617	10591	10431	74	54
18-May-02	22	10442	9100	9745	9832	9864	10150	10137	9805	74	50
19-May-02	23	10763	9761	10432	11103	10674	10626	10993	10598	73	59
20-May-02	24	10385	9866	10368	10566	10192	10133	9916	10173	73	53
21-May-02	25	10628	10033	10466	10250	10716	10584	10647	10449	74	47
MEAN		10379							10327	75	54
S.D.		293.4							280.2	1.2	4.4

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 4 - 20,000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentration (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
27-Apr-02	1	19922	21229	21107	20717	21913	22589	20845	21400	69	59
28-Apr-02	2	19743	20894	21824	21540	22071	21998	21550	21646	70	57
29-Apr-02	3	19524	21334	21752	21230	20981	20733	20689	21121	70	57
30-Apr-02	4	19432	19740	20830	21230	21195	22460	21550	21167	70	59
1-May-02	5	19547	20214	20531	21389	21281	21086	21404	20984	72	55
2-May-02	6	18992	18611	19921	19585	21056	21148	20743	20177	72	61
3-May-02	7	19390	20737	21288	21456	21500	21580	21358	21320	72	57
4-May-02	8	19208	20495	21303	20488	19770	20119	20664	20473	72	56
5-May-02	9	19501	20313	21205	20829	20625	20536	20107	20603	72	58
6-May-02	10	19035	19444	20189	20716	17551	20521	25144	20594	72	65
7-May-02	11	19501	19382*	20626	20747	21406	19892	20576	20438	73	61
8-May-02	12	18799	18743	19573	20462	20183	20005	20638	19934	73	61
9-May-02	13	19921	20342	19990	20308	19972	18632	21216	20077	71	62
10-May-02	14	18965	19491	20230	20272	18387	20199	20133	19785	73	62
11-May-02	15	19547	15234	21088	20859	21692	20900	21095	20145	74	59

* - Backup analytical system used

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-3 - SUMMARY OF EXPOSURE DATA (CONT'D)

GROUP 4 - 20,000 MG/M^3 TARGET CONCENTRATION

Date	Exposure Number	Nominal Conc. (mg/m^3)	Hourly Analytical Concentration (mg/m^3) 1	2	3	4	5	6	Mean Concentration (mg/m^3)	Mean Temperature (^{o}F)	Mean Relative Humidity (%)
12-May-02	16	19274	18154	19894	20787	20241	22009	19513	20100	74	66
13-May-02	17	19578	20298	19879	20010	19612	20170	20370	20057	74	61
14-May-02	18	19531	19506	20204	20905	19819	20526	20542	20251	73	49
15-May-02	19	19526	20123	20852	20415	20941	20783	20737	20642	73	54
16-May-02	20	19350	18785	19978	20442	20500	20312	20954	20162	71	54
17-May-02	21	19790	19989	20182	20241	20200	22775	20303	20615	71	58
18-May-02	22	19551	20381	20949	20809	20550	20767	20439	20649	71	54
19-May-02	23	19767	20283	18377	21781	21244	18671	21963	20386	71	58
20-May-02	24	20071	19828	20809	21286	20966	21738	21454	21014	70	58
21-May-02	25	19257	19289	20130	21021	16493	20883	20942	19793	70	54
MEAN		19469							20541	72	58
S.D.		314.5							518.3	1.4	3.8

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-4 - SUMMARY OF DISTRIBUTION SAMPLES

SAMPLE LOCATION	TARGET EXPOSURE LEVELS		
	2000 MG/M^3	10,000 MG/M^3	20,000 MG/M^3
Left Top Back	2073	10462	21155
Left Top Front	1965	10636	21532
Left Middle Back	2270	10385	20995
Left Middle Front	2183	10507	21408
Left Bottom Back	2184	10659	21124
Left Bottom Front	1926	10373	21294
Right Top Back	2135	10676	20832
Right Top Front	2031	10526	21550
Right Middle Back	1926	10997	21517
Right Middle Front	1886	10903	21399
Right Bottom Back	2162	10802	21026
Right Bottom Front	1960	10401	20969
MEAN	2058	10611	21233
S.D.	126.79	206.70	248.71
%CV	6.16	1.95	1.17
Minimum	1886	10373	20832
Maximum	2270	10997	21550

NOTE: Top, middle, bottom sample locations represent horizontal planes within exposure chamber. Left, right, front, back represent corners of each horizontal plane. Samples taken in series approximately 8 minute intervals.

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-5 LIGHTING, NOISE, AND OXYGEN LEVELS

Environmental Conditions			
	April 27, 2002	**May 8, 2002**	**May 21, 2002**
Light Intensity: (fc)			
Room PE103 in a cage 3 feet above the floor.	8.9	3.8	5.3
Center of room PE 102 3 feet above the floor.	32.5	36.1	62
Center of room PE 110 3 feet above the floor.	34.1	28.9	45.3
Noise level: (db)			
1m - 1: Door open	78.9	75.5	73.2
1m - 1: Through port	79.7	76.9	77.1
1m - 2: Door open	79.3	73.6	73.1
1m - 2: Through port	80.2	77.1	76.5
1m - 3: Door open	79.1	74.0	74.9
1m - 3: Through port	80.1	76.8	77.2
1m - 4: Door open	78.8	72.5	72.2
1m - 4: Through port	79.9	75.2	75.1
O_2 Level: (%) (Reading upon removal)	No Alarm	No Alarm	No Alarms
1m - 1	20.7	20.3	19.9
1m - 2	20.7	20.4	20.2
1m - 3	20.7	20.3	19.7
1m - 4	20.7	20.2	19.9

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% O_2)

APPENDIX I - INHALATION EXPOSURE DATA

TABLE I-6 - PARTICLE SIZE DATA

0 MG/M^3

IMPACTOR STAGE	STAGE CONSTANT (μm)	FILTER WEIGHT DIFFERENCE (μg)	PERCENT IN SIZE RANGE
FILTER	0.30	0	0
8	0.54	0	0
7	0.84	0	0
6	1.50	0	0
5	2.60	0	0
4	4.10	0	0
3	6.80	0	0
2	17.0	0	0
1	28.0	0	0
		TOTAL =0	
PARTICLE CONCENTRATION = 0 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 μg/mg)/(SAMPLE VOLUME))*1000 L/M^3

APPENDIX I - INHALATION EXPOSURE DATA (CONT'D)

TABLE I-6 - PARTICLE SIZE DATA (CONT'D)

20,000 MG/M^3 TARGET CONCENTRATION

IMPACTOR STAGE	STAGE CONSTANT (μm)	FILTER WEIGHT DIFFERENCE (μG)	PERCENT IN SIZE RANGE
FILTER	0.30	0	0
8	0.54	10	5.6
7	0.84	70	38.9
6	1.50	0	0
5	2.60	50	27.8
4	4.10	40	22.2
3	6.80	0	0
2	17.0	0	0
1	28.0	10	5.6
		TOTAL =180	

CONCENTRATION OF PARTICLES = 20 MG/M^3

MEAN MEDIAN AERODYNAMIC DIAMETER = 2.368 μm

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 μg/mg)/(SAMPLE VOLUME))*1000 L/M^3

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES
CHAMBER TEMPERATURES (ºF) - 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**
27-Apr-02	***64***	***66***	***66***	***66***	68	68	68	68	68	68	68	68	68
28-Apr-02	***66***	68	68	68	68	68	68	68	68	68	68	68	68
29-Apr-02	68	68	68	68	68	68	68	68	68	68	68	68	68
30-Apr-02	***66***	***66***	68	68	68	68	68	68	68	68	68	68	68
1-May-02	68	68	68	70	70	70	70	70	70	70	70	70	70
2-May-02	68	68	68	68	68	68	68	68	70	70	70	70	70
3-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
4-May-02	68	68	68	68	68	68	68	68	68	68	68	68	68
5-May-02	68	68	68	68	68	68	68	68	68	68	68	68	68
6-May-02	***64***	***64***	68	68	70	70	70	70	70	70	70	70	70
7-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
8-May-02	***66***	68	70	70	70	70	70	70	70	70	70	70	70
9-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
10-May-02	***67***	69	69	70	70	70	70	70	70	70	70	70	70
11-May-02	68	70	70	72	72	72	72	72	72	72	72	72	72
12-May-02	68	68	70	70	70	70	70	70	70	70	70	70	70
13-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
14-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
15-May-02	***66***	68	68	68	70	70	70	70	70	68	68	68	68
16-May-02	68	68	68	68	68	68	68	68	68	68	68	68	68
17-May-02	68	68	68	68	68	68	68	68	68	68	68	68	68
18-May-02	***66***	***66***	***66***	68	68	68	68	68	68	68	68	68	68
19-May-02	***66***	68	68	68	68	68	68	68	68	68	68	68	68
20-May-02	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***
21-May-02	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	68	68	68	68	68

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES
CHAMBER TEMPERATURES (ºF) - 2000 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**
27-Apr-02	***66***	68	68	68	70	70	70	70	70	70	70	70	70
28-Apr-02	68	70	70	70	70	70	70	70	70	70	70	70	70
29-Apr-02	68	70	72	72	72	70	70	70	70	70	70	70	70
30-Apr-02	68	70	70	70	70	70	70	70	70	70	70	70	70
1-May-02	70	70	70	70	70	70	70	70	70	72	72	72	72
2-May-02	70	70	70	70	70	70	70	70	72	72	72	72	72
3-May-02	68	70	70	70	70	70	74	74	74	74	74	74	74
4-May-02	70	70	71	71	71	71	71	71	71	71	71	71	71
5-May-02	70	72	74	74	74	74	74	74	74	74	74	74	74
6-May-02	***66***	70	70	70	70	70	72	72	72	74	74	74	74
7-May-02	70	70	72	72	72	72	74	74	74	74	74	74	74
8-May-02	68	70	71	71	73	73	73	73	73	73	73	73	73
9-May-02	68	72	72	72	72	72	72	74	74	74	74	74	74
10-May-02	68	70	70	70	74	74	74	74	74	74	74	74	74
11-May-02	70	72	74	74	74	**76**	**76**	**76**	**76**	**76**	**76**	**76**	**76**
12-May-02	70	74	74	74	74	74	74	74	74	74	74	74	74
13-May-02	70	70	72	74	74	74	**76**	**76**	**76**	**76**	74	**76**	**76**
14-May-02	68	70	70	72	72	72	74	74	74	74	74	72	72
15-May-02	68	70	72	72	74	74	72	74	74	70	72	72	72
16-May-02	68	70	70	70	70	70	70	70	70	70	70	70	70
17-May-02	68	70	70	70	70	70	70	70	70	72	72	72	72
18-May-02	***66***	70	70	71	72	72	72	72	72	72	72	72	72
19-May-02	68	72	72	72	72	72	72	72	72	72	72	72	72
20-May-02	***66***	68	70	70	70	70	70	70	70	70	70	70	70
21-May-02	***66***	68	68	70	70	70	70	70	70	70	70	70	70

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES
CHAMBER TEMPERATURES (ºF) – 10,000 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**
27-Apr-02	***66***	70	70	70	70	72	72	72	72	72	72	72	72
28-Apr-02	70	72	74	74	74	74	74	74	74	74	74	74	74
29-Apr-02	68	72	74	74	74	75	75	75	75	75	75	75	75
30-Apr-02	68	70	72	72	74	74	74	74	74	74	74	74	74
1-May-02	70	73	74	74	***76***	***76***	***76***	***76***	***78***	***76***	***76***	***76***	***76***
2-May-02	70	72	74	74	74	74	74	74	***78***	***78***	***78***	***78***	***78***
3-May-02	68	72	74	***76***	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***	***78***
4-May-02	72	72	74	74	74	74	74	74	74	74	74	74	74
5-May-02	70	72	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
6-May-02	68	70	74	74	***76***	***76***	***76***	***76***	***76***	***78***	***78***	***78***	***78***
7-May-02	68	72	***76***	***76***	***76***	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***
8-May-02	68	72	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
9-May-02	68	72	74	74	74	74	74	***78***	***78***	***78***	***78***	***78***	***78***
10-May-02	68	72	74	***76***	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***	***78***
11-May-02	68	72	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***	***78***	***78***	***78***
12-May-02	70	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
13-May-02	68	72	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***	***78***	***78***	***78***
14-May-02	68	72	74	***76***	***76***	***76***	***78***	***78***	***78***	***78***	***78***	***78***	***78***
15-May-02	***66***	72	74	***76***	***76***	***76***	***76***	***78***	***78***	***76***	***76***	***76***	***76***
16-May-02	68	72	74	74	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
17-May-02	68	70	74	74	74	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***
18-May-02	***66***	70	72	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
19-May-02	***66***	70	74	74	74	74	74	74	74	74	74	74	74
20-May-02	***66***	70	72	72	74	74	74	74	74	74	74	74	74
21-May-02	***66***	70	72	74	74	74	74	74	***76***	***76***	***76***	***76***	***76***

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES
CHAMBER TEMPERATURES (ºF) – 20,000 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**
27-Apr-02	***66***	68	68	68	70	70	70	70	70	70	70	70	70
28-Apr-02	70	70	70	70	70	70	70	70	70	70	70	70	70
29-Apr-02	68	70	70	70	70	70	70	70	70	70	70	70	70
30-Apr-02	***66***	68	70	70	70	70	70	70	70	70	70	70	70
1-May-02	70	70	70	72	72	72	72	72	74	74	74	74	74
2-May-02	68	70	70	70	70	72	72	72	74	74	74	74	74
3-May-02	68	70	70	72	72	72	74	74	74	74	74	74	74
4-May-02	***66***	70	72	72	72	72	72	74	74	74	74	74	74
5-May-02	70	70	72	72	72	72	72	72	72	72	72	72	72
6-May-02	***66***	***66***	70	72	74	74	74	74	74	74	74	74	74
7-May-02	68	70	72	72	72	74	74	74	74	74	74	74	74
8-May-02	68	70	72	72	74	74	74	74	74	74	74	74	74
9-May-02	***66***	70	72	72	72	72	72	72	72	72	72	72	72
10-May-02	***66***	69	70	72	74	74	74	74	74	74	74	74	74
11-May-02	***66***	70	72	74	74	***76***	***76***	***76***	***76***	***76***	***76***	***76***	***76***
12-May-02	69	73	74	74	74	74	74	74	74	74	74	74	74
13-May-02	68	70	72	74	74	74	74	74	74	74	***76***	***76***	***76***
14-May-02	68	70	72	72	72	74	74	74	74	74	74	74	74
15-May-02	***66***	70	72	72	74	74	74	74	74	74	74	74	74
16-May-02	68	70	70	70	70	72	72	72	72	72	72	72	72
17-May-02	68	70	70	70	72	72	72	72	72	72	72	72	72
18-May-02	***66***	68	70	70	70	72	72	72	72	72	72	72	72
19-May-02	***66***	68	72	72	72	72	72	72	72	72	72	72	72
20-May-02	***66***	68	70	70	70	70	70	70	70	70	70	70	70
21-May-02	***66***	68	68	70	70	70	70	70	72	72	72	72	72

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH) - 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**
27-Apr-02	***70***	***62***	***62***	***62***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
28-Apr-02	***62***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
29-Apr-02	55	55	55	55	55	55	55	55	55	55	55	55	55
30-Apr-02	***71***	***71***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
1-May-02	***64***	***64***	***64***	57	57	57	57	57	57	57	57	57	57
2-May-02	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
3-May-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
4-May-02	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
5-May-02	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
6-May-02	***100***	***90***	***76***	***72***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
7-May-02	***72***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
8-May-02	***71***	***72***	***60***	***60***	***60***	***60***	***60***	***60***	***60***	***60***	***60***	***60***	***60***
9-May-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
10-May-02	***71***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
11-May-02	***72***	***64***	***64***	***57***	***65***	***65***	***65***	***65***	***65***	***65***	***65***	***65***	***65***
12-May-02	***72***	***72***	***68***	***68***	***68***	***68***	***68***	***68***	***68***	***68***	***68***	***68***	***68***
13-May-02	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***	***72***
14-May-02	55	57	48	48	48	48	48	57	***64***	***64***	***64***	57	57
15-May-02	***62***	***64***	***64***	***64***	57	57	57	57	57	64	64	64	64
16-May-02	***64***	***64***	***64***	***64***	55	55	55	55	55	55	55	55	55
17-May-02	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
18-May-02	***62***	***62***	***62***	***55***	55	55	55	55	55	55	***64***	***64***	***64***
19-May-02	***71***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***
20-May-02	***62***	***62***	***62***	***62***	***71***	***71***	***62***	***62***	***62***	***62***	***62***	***62***	***62***
21-May-02	53	53	53	53	53	53	53	53	55	55	55	55	55

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH) - 2000 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**
27-Apr-02	***62***	***64***	***64***	***64***	57	57	57	57	57	57	57	57	57
28-Apr-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
29-Apr-02	**64**	57	50	50	50	48	48	48	48	48	48	48	48
30-Apr-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
1-May-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
2-May-02	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***64***	***65***	***65***	***65***	***65***	***65***
3-May-02	***64***	***64***	***64***	***64***	***64***	***64***	58	58	58	58	58	58	58
4-May-02	***64***	***64***	60	60	60	60	60	60	60	60	60	60	60
5-May-02	***64***	57	51	51	51	51	51	51	51	51	51	51	51
6-May-02	***90***	***76***	***76***	***76***	***76***	***76***	***65***	***65***	***65***	58	58	58	58
7-May-02	***64***	***72***	***65***	***65***	***65***	***65***	58	58	58	58	58	58	58
8-May-02	***72***	57	57	57	58	58	58	58	58	58	58	58	58
9-May-02	***72***	57	57	57	57	57	57	58	58	58	58	58	58
10-May-02	***72***	***64***	***64***	***64***	58	58	58	58	58	58	58	58	58
11-May-02	***64***	***65***	58	58	58	52	59	59	59	59	59	59	59
12-May-02	***68***	58	58	58	58	58	58	58	58	58	58	58	58
13-May-02	***72***	***72***	***65***	58	58	58	52	52	52	52	***66***	52	52
14-May-02	55	48	57	50	50	50	44	44	44	51	51	50	50
15-May-02	55	57	57	57	51	51	57	58	58	***64***	57	57	57
16-May-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
17-May-02	***64***	57	57	57	57	57	57	57	***64***	57	57	57	57
18-May-02	***62***	52	52	53	50	50	50	50	50	50	50	50	50
19-May-02	***64***	57	57	57	57	57	57	57	57	57	57	57	57
20-May-02	***62***	***64***	57	57	57	57	57	57	57	57	57	57	57
21-May-02	53	55	55	57	57	57	57	57	57	57	57	57	57

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH) – 10,000 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**
27-Apr-02	***71***	57	57	57	57	57	57	57	57	57	57	57	57
28-Apr-02	57	50	51	51	51	51	51	51	51	51	51	51	51
29-Apr-02	***64***	57	51	51	51	42	42	42	42	42	42	42	42
30-Apr-02	***64***	***64***	57	57	57	57	57	57	57	57	57	57	57
1-May-02	***64***	54	51	51	45	45	45	45	46	49	49	49	49
2-May-02	***64***	***61***	58	58	58	58	58	58	46	46	46	46	46
3-May-02	***64***	57	51	52	52	52	46	46	46	46	46	46	46
4-May-02	***61***	***65***	58	58	58	58	58	58	58	58	58	58	58
5-May-02	***64***	57	51	52	52	52	52	52	52	52	52	52	52
6-May-02	***90***	***77***	58	58	59	59	59	59	59	53	53	53	53
7-May-02	***64***	***65***	59	59	59	59	59	53	53	53	53	53	53
8-May-02	***72***	***65***	58	56	56	56	56	56	56	56	56	56	56
9-May-02	***64***	***65***	58	58	58	58	58	53	53	53	53	53	53
10-May-02	***64***	53	54	56	56	56	53	53	53	53	53	53	53
11-May-02	***64***	***65***	52	52	53	53	53	53	53	53	53	53	53
12-May-02	***72***	***66***	59	59	59	59	59	59	59	59	59	59	59
13-May-02	***72***	***73***	59	59	53	53	53	53	53	60	60	60	60
14-May-02	***64***	50	44	45	45	45	45	45	45	46	46	45	45
15-May-02	***71***	57	58	52	52	52	52	53	53	52	52	52	52
16-May-02	***64***	57	51	51	51	45	45	52	52	52	52	52	52
17-May-02	***64***	57	51	51	58	58	52	52	52	52	52	52	52
18-May-02	***62***	57	53	47	45	45	45	45	45	45	52	52	52
19-May-02	***71***	***64***	58	58	58	58	58	58	58	58	58	58	58
20-May-02	***62***	57	57	57	51	51	51	51	51	51	51	51	51
21-May-02	53	57	50	44	44	44	44	44	45	45	45	45	45

TABLE I-7 – CHAMBER TEMPERATURES AND HUMIDITIES (CONT'D)
CHAMBER HUMIDITIES (%RH) – 20,000 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**
27-Apr-02	***62***	***64***	***64***	***64***	57	57	57	57	57	57	57	57	57
28-Apr-02	57	57	57	57	57	57	57	57	57	57	57	57	57
29-Apr-02	55	57	57	57	57	57	57	57	57	57	57	57	57
30-Apr-02	***71***	***64***	57	57	57	57	57	57	57	57	57	57	57
1-May-02	57	57	57	57	57	57	57	57	51	51	51	51	51
2-May-02	***72***	***64***	***64***	***64***	***64***	57	57	57	58	58	58	58	58
3-May-02	***64***	57	***64***	57	57	57	51	51	51	58	58	58	58
4-May-02	***71***	***64***	57	57	57	57	57	51	51	51	51	51	51
5-May-02	57	***64***	57	57	57	57	57	57	57	57	57	57	57
6-May-02	***90***	***90***	***77***	***69***	58	58	58	58	58	58	58	58	58
7-May-02	***64***	***72***	57	***65***	***65***	58	58	58	58	58	58	58	58
8-May-02	***72***	***72***	***65***	***65***	58	58	58	58	58	58	58	58	58
9-May-02	***62***	***64***	57	57	57	57	57	***65***	***65***	***65***	***65***	***65***	***65***
10-May-02	***71***	***72***	***72***	***65***	58	58	58	58	58	58	58	58	58
11-May-02	***71***	***72***	***65***	58	58	56	59	52	52	52	52	59	59
12-May-02	***64***	***69***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***	***66***
13-May-02	***72***	***72***	***65***	58	58	58	58	58	58	58	59	59	59
14-May-02	55	57	50	50	50	44	44	44	44	51	51	51	51
15-May-02	***62***	**64**	57	57	51	51	51	51	51	51	51	51	51
16-May-02	***64***	**57**	57	57	57	50	50	50	50	50	50	57	57
17-May-02	***64***	**57**	57	57	57	57	57	57	57	57	57	57	57
18-May-02	***62***	**55**	57	57	57	50	50	50	50	50	50	57	57
19-May-02	***62***	**64**	57	57	57	57	57	57	57	57	57	57	57
20-May-02	***62***	**64**	57	57	57	57	57	57	57	57	57	57	57
21-May-02	53	55	55	57	57	57	57	57	50	50	50	50	50

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 3.0 mL carbon disulfide (CS_2) for at least 30 minutes. Aliquots were then analyzed by GC-FID.

STANDARDIZATION

A standard mixture was prepared in CS_2 containing each of the 18 target hydrocarbons plus ETBE oxygenate. Analysis of the standard mixture was used to confirm the relative retention times of each target hydrocarbon and was not used for quantitative purposes.

CHARACTERIZATION

Characterization of the neat MRD-00-716 (gasoline vapor condensate with ETBE) was performed separately and will be reported as part of EMBSI Study 167490. Neat test substance characterization included a similar analysis of the relative distribution of target hydrocarbons and oxygenate as was performed for the chamber sorbent tube samples.

APPENDIX J - ANALYTICAL CHEMISTRY REPORT

INSTRUMENT CONDITIONS FOR MRD-00-716 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
FID Range	FID (2^5)
Detector Temperature; (gas flows)	225°C (H_2 45 mL/min; Air 450 mL/min)
Injector Temperature (Split ratio)	225°C (split injection 20:1)
Injection Volume	0.2µL or 0.5µL*
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)

*0.2µL injected of 10,000mg/m^3 and 20,000mg/m^3 samples, 0.5µL injected of 2000mg/m^3 samples.

RESULTS

Hydrocarbon characterization was performed on an area percent basis for each of the 18 target hydrocarbons and ETBE oxygenate. Results are listed in Table J-1.

The relative distribution of hydrocarbons and oxygenate measured on the chamber characterization charcoal tubes was in good agreement with that measured in the characterization of neat MRD-00-716 test substance.

D. J. Letinski, M.S.
Analytical Chemist

6 Nov 2008
Date

APPENDIX J - ANALYTICAL CHEMISTRY REPORT

TABLE J - 1

MRD-00-716 CHAMBER CHARACTERIZATION - SORBENT TUBES HYDROCARBON DISTRIBUTION

Sample Date	30-Apr-02			8-May-02			14-May-02			21-May-02		
Inhalation ID	1	2	3	4	5	6	7	8	9	10	11	12
		mg/m^3			mg/m^3			mg/m^3			mg/m^3	
	2000	10,000	20,000	2000	10,000	20,000	2000	10,000	20,000	2000	10,000	20,000
Compound	*RESULTS ARE in "AREA %" of TARGET HYDROCARBONS*											
isobutane	1.7	1.5	1.7	1.8	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.7
n-butane	9.6	8.7	9.7	10.0	9.6	9.4	9.5	9.7	9.5	9.7	9.3	9.6
isopentane	31.8	32.1	32.6	32.5	32.7	32.6	32.2	32.3	32.6	32.4	32.1	33.1
n-pentane	9.8	10.0	9.9	9.9	10.0	10.0	9.8	9.9	10.0	9.9	9.9	10.1
trans-2-pentene	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2
2-methyl-2-butene	3.2	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.3
2,3-dimethylbutane	1.7	1.5	1.7	1.5	1.5	1.5	1.7	1.7	1.5	1.5	1.7	1.5
2-methylpentane	4.9	5.0	4.9	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
3-methylpentane	3.1	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
n-hexane	2.6	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
ETBE	17.1	17.6	16.9	16.6	17.0	17.2	17.1	17.1	17.1	16.9	17.4	16.9
methylcyclopentane	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.3
2,4-dimethylpentane	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
benzene	2.2	2.0	1.9	2.2	1.9	1.9	2.2	1.9	1.9	2.2	1.9	1.9
2-methylhexane	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
2,3-dimethylpentane	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.2
3-methylhexane	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.3	1.4	1.4	1.4	1.3
isooctane	1.5	1.6	1.4	1.4	1.4	1.5	1.4	1.3	1.5	1.5	1.5	1.3
toluene	2.3	2.3	2.1	2.2	2.1	2.1	2.3	2.1	2.1	2.2	2.3	1.9
Sum	100	100	100	100	100	100	100	100	100	100	100	100

No hydrocarbon target compounds were detected on the back section of the sorbent tubes analyzed.

APPENDIX K – STATISTICIAN'S REPORT

Analysis Of Fetal Data From A Whole-Body Inhalation Developmental Toxicity Study In Rats With Baseline Gasoline with ETBE Vapor Condensate (MRD-00-716)

This report details the statistical analysis of fetal body weight and anomaly data from ExxonMobil Study 171634. The study was conducted to evaluate the potential developmental toxicity of Baseline Gasoline with ETBE Vapor Condensate (GEVC). GEVC was administered via whole-body inhalation exposure to pregnant rats during the period of major organogenesis and fetal growth. GEVC 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/m^3 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 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. 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 allowed comparisons that accounted 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, variations, or observations) 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
- Combined Malformations and Variations for Dead Fetuses
- Malformations for All Fetuses
- Malformations for Alive Fetuses
- Malformations for Dead Fetuses
- Variations for All Fetuses
- Variations for Alive Fetuses
- Variations for Dead Fetuses

In some cases there were no dead fetuses in a category.

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Table I lists the four 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 (C7): Cervical rib; Bilateral", "SKELETAL/RIBS: Rudimentary supernumerary ribs", and "SKELETAL/RIBS (L1): Well-formed; Left" were combined into a sub-category "SKELETAL/RIBS: supernumerary Ribs(combined)". 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
Anomaly Categories and Corresponding Sub-categories

Category	Sub-Category	Sub-categories combined
Head	1- HEAD: Anolphthalmia; Bilateral	
	2- HEAD: Dilated lateral ventricles; Bilateral	
	3- HEAD: Open eye; Right	
	4- HEAD: Retina fold	
External	1- EXTERNAL: Acaudate	
	2- EXTERNAL: Anal atresia	
	3- EXTERNAL: Anasarca	
	4- EXTERNAL: Brachydactyly; all paws	
	5- EXTERNAL: Conjoined twin; Joined at thoracic region; **1** head, **8** limbs, **2** tails, **1** umbilicus	
	6- EXTERNAL: Domed head	
	7- EXTERNAL: Ectrodactyly; all paws	
	8- EXTERNAL: Kyphosis	
	9- EXTERNAL: Malrotated hindpaw; Left	
	10- EXTERNAL: Small eye bulge; Bilateral	

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Table I
Malformation Categories and Corresponding Sub-categories

Abdomen/Thorax	1- ABDOMEN/THORAX: All other abdominal organs appear on each side	
	2- ABDOMEN/THORAX: All thoracic and cranial organs shared	
	3- ABDOMEN/THORAX: Cecum not evident; bifurcation appears in area where cecum would normally reside	
	4- ABDOMEN/THORAX: Double aorta	
	5- ABDOMEN/THORAX: Duplicate tongue	
	6- ABDOMEN/THORAX: Elongated innominate artery	
	7- ABDOMEN/THORAX: Enlarged atrial chamber; Right	
	8- ABDOMEN/THORAX: Hydronephrosis	
	9- ABDOMEN/THORAX: Hydroureter	
	10- ABDOMEN/THORAX: Innominate artery absent	
	11- ABDOMEN/THORAX: Liver, stomach, spleen, entire small intestine shared	
	12- ABDOMEN/THORAX: Malpositioned carotid	
	13- ABDOMEN/THORAX: Malpositioned carotid and subclavian branches; Bilateral	
	14- ABDOMEN/THORAX: Malpositioned kidneys	
	15- ABDOMEN/THORAX: Malpositioned ovaries	
	16- ABDOMEN/THORAX: Malpositioned pulmonary artery branch	
	17- ABDOMEN/THORAX: Malpositioned subclavian branch; Right	
	18- ABDOMEN/THORAX: Malpositioned uterus	
	19- ABDOMEN/THORAX: Misshapen spleen	
	20- ABDOMEN/THORAX: No cervical spinal column	
	21- ABDOMEN/THORAX: Spleen small	
	22- ABDOMEN/THORAX: Supernumerary lung lobe; Left	
	23- ABDOMEN/THORAX: Umbilical artery aneurysm	
	24- ABDOMEN/THORAX: Umbilical artery arises from left side of urinary bladder	
	25- ABDOMEN/THORAX: Ventricle small; Left	
	26- ABDOMEN/THORAX: Abnormal spleen	19,21
	27- ABDOMEN/THORAX: Abnormal thoracic/cervical blood vessels	6,10,13,12,16,17
	28- ABDOMEN/THORAX: Malpositioned urogenital organs	14,15,18

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Table I
Malformation Categories and Corresponding Sub-categories

Skeletal	1- SKELETAL/FORELIMB (All bones): Duplication or extra bones	
	2- SKELETAL/FOREPAW (All bones): Duplication or extra bones	
	3- SKELETAL/FOREPAW (Metacarpal **1** anlage): Misshapen; Left	
	4- SKELETAL/FOREPAW (Proximal phalanges **2**-**4**): Unossified; Bilateral	
	5- SKELETAL/HINDLIMB (All bones): Duplication or extra bones; Bilateral	
	6- SKELETAL/HINDPAW (All bones): Duplication or extra bones; Bilateral	
	7- SKELETAL/HINDPAW (Calcaneus): Advanced; Bilateral	
	8- SKELETAL/PECTORAL GIRDLE (All bones): Duplication or extra bones; Bilateral	
	9- SKELETAL/PELVIC GIRDLE (All bones): Duplication or extra bones; Bilateral	
	10- SKELETAL/RIBS (All bones): Duplication or extra bones	
	11- SKELETAL/RIBS (C7 and T1 Anlage): Fused; Anlage on C7 and T1 rib fused before it meets sternebrae	
	12- SKELETAL/RIBS (C7, C7 Anlage): Cervical rib; Bilateral	
	13- SKELETAL/RIBS (L1): Well-formed; Left	
	14- SKELETAL/RIBS (Right twin T8 left, Left twin T8 right): Fused; Left	
	15- SKELETAL/RIBS (T13): Short last rib; Right	
	16- SKELETAL/RIBS: Rudimentary supernumerary ribs	
	17- SKELETAL/SKULL (Interparietal): Misshapen	
	18- SKELETAL/SKULL (Squamosal Process): Hypoplastic; Left	
	19- SKELETAL/SKULL (Supraoccipital,Interparietal,Parietals,Frontals,Nasals): Duplication or extra bone	
	20- SKELETAL/SKULL (Tympanics): Hypoplastic	
	21- SKELETAL/STERNEBRAE (All bones): Duplication or extra bones	
	22- SKELETAL/STERNEBRAE (VI): Advanced	
	23- SKELETAL/STERNEBRAE: Asymmetric sternebrae	
	24- SKELETAL/STERNEBRAE: Bifid sternebrae	
	25- SKELETAL/STERNEBRAE: Dumbbell-shaped sternebrae	
	26- SKELETAL/STERNEBRAE: Hypoplastic sternebrae	
	27- SKELETAL/STERNEBRAE: Misshapen sternebrae	
	28- SKELETAL/STERNEBRAE: Unossified sternebrae	
	29- SKELETAL/VERTEBRAE (All bones): Duplication or extra bones	
	30- SKELETAL/VERTEBRAE (CE3 Anlage): Bifid centra	
	31- SKELETAL/VERTEBRAE (L): One less presacral vertebrae	
	32- SKELETAL/VERTEBRAE (L1): Misshapen centra	
	33- SKELETAL/VERTEBRAE (Left twin CE **1**-**7**): Fused	
	34- SKELETAL/VERTEBRAE (Left twin T2): Unossified centra	
	35- SKELETAL/VERTEBRAE (Left twin T3): Hemicentra	
	36- SKELETAL/VERTEBRAE: Bifid vertebral centra	
	37- SKELETAL/VERTEBRAE: Dumbbell-shaped vertebral centra	
	38- SKELETAL/VERTEBRAE: Dumbbell-shaped vertebral centra anlage	
	39- SKELETAL/RIBS: Supernumerary ribs	12,13,16
	40- SKELETAL/STERNEBRAE: Hypoplastic sternebrae	24,25,26, 28
	41- SKELETAL/VERTEBRAE: Hypoplastic vertebral centra	34, 35, 36, 37

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

RESULTS:

BODY WEIGHT ANALYSIS

There was no statistically significant difference in the mean fetal litter weights among the dose groups. Table II shows the mean fetal weight and the least squares mean fetal weight. The weight difference between the male and female pups was not consistent across the dose groups; therefore only the mean pup weight respective of sex is presented.

Table II
Mean fetal weight, the least squares mean fetal weight

Exposure Group (mg/m^3)	n litters	n fetuses	observed fetus mean (gm)	Least squares fetus mean (gm)
0	25	353	5.32	5.33
2,000	23	329	5.31	5.34
10,000	24	325	5.30	5.29
20,000	24	342	5.27	5.25

ANOMALY ANALYSES

The analyses of the incidence of combined external variations and malformations (all fetuses) and of combined external malformations (all fetuses) indicated a statistically significant increased incidence in the control group relative to the dosed groups. This finding is considered a statistical anomaly.

None of the malformation or variation 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 is not associated with a change in mean litter fetal body weight or any change in head, external, abdomen/thorax and skeletal malformations/variations.

13 NOV 2008

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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 # 171634
Head Variations and Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	2	2
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	1	1
20000 MG/M3	24	172	1	1

Head Variations and Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	1	1
20000 MG/M3	24	171	1	1

Head Variations and Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

Head Variations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Head Variations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	0	0
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	171	0	0

Head Variations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

Head Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	2	2
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	1	1
20000 MG/M3	24	172	1	1

Head Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	1	1
20000 MG/M3	24	171	1	1

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Head Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

head - individual
HEAD: Anolphthalmia; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

head - individual
HEAD: Dilated lateral ventricles; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

head - individual
HEAD: Open eye; Right

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	1	1

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

head - individual
HEAD: Retina fold

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	164	0	0
10000 MG/M3	24	162	1	1
20000 MG/M3	24	172	0	0

External Variations and Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	4	4
2000 MG/M3	23	329	1	1
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

External Variations and Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	353	3	3
2000 MG/M3	23	329	1	1
10000 MG/M3	24	325	0	0
20000 MG/M3	24	342	0	0

External Variations and Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	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	25	354	4	4
2000 MG/M3	23	329	1	1
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

External Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	353	3	3
2000 MG/M3	23	329	1	1
10000 MG/M3	24	325	0	0
20000 MG/M3	24	342	0	0

External Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

external - individual
EXTERNAL: Acaudate

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

external - individual
EXTERNAL: Anal atresia

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Anasarca

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Brachydactyly; all paws

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Conjoined twin; Joined at thoracic region;
1 head, 8 limbs, 2 tails, 1 umbilicus

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	0	0
2000 MG/M3	23	329	1	1
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

external - individual
EXTERNAL: Domed head

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Ectrodactyly; all paws

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Kyphosis

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

external - individual
EXTERNAL: Malrotated hindpaw; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	2	2
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

external - individual
EXTERNAL: Small eye bulge; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	354	1	1
2000 MG/M3	23	329	0	0
10000 MG/M3	24	325	0	0
20000 MG/M3	24	343	0	0

Visceral Variations and Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	6	7
2000 MG/M3	23	165	5	6
10000 MG/M3	24	162	2	3
20000 MG/M3	24	172	1	1

Visceral Variations and Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	5	6
2000 MG/M3	23	165	5	6
10000 MG/M3	24	162	2	3
20000 MG/M3	24	171	1	1

Visceral Variations and Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Visceral Variations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	3	4
2000 MG/M3	23	165	2	2
10000 MG/M3	24	162	2	3
20000 MG/M3	24	172	0	0

Visceral Variations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	3	4
2000 MG/M3	23	165	2	2
10000 MG/M3	24	162	2	3
20000 MG/M3	24	171	0	0

Visceral Variations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	0	0
20000 MG/M3	1	1	0	0

Visceral Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	4	4
2000 MG/M3	23	165	4	4
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	1	1

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Visceral Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	177	3	3
2000 MG/M3	23	165	4	4
10000 MG/M3	24	162	0	0
20000 MG/M3	24	171	1	1

Visceral Malformations - combined
Dead Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	1	1	1	1
20000 MG/M3	1	1	0	0

visceral - individual
ABDOMEN/THORAX: Cecum not evident;
bifurcation appears in area where cecum would normally reside

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Double aorta

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - individual
ABDOMEN/THORAX: Duplicate tongue

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Elongated innominate artery

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Enlarged atrial chamber; Right

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Hydronephrosis

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	2	2
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - individual
ABDOMEN/THORAX: Hydroureter

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	2	2
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Innominate artery absent

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Malpositioned carotid

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Malpositioned carotid and subclavian branches; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - individual
ABDOMEN/THORAX: Malpositioned kidneys

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Malpositioned ovaries

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Malpositioned pulmonary artery branch

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Malpositioned subclavian branch; Right

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - individual
ABDOMEN/THORAX: Malpositioned uterus

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Misshapen spleen

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: No cervical spinal column

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Spleen small

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - individual
ABDOMEN/THORAX: Supernumerary lung lobe; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Umbilical artery aneurysm

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	1	1

visceral - individual
ABDOMEN/THORAX: Umbilical artery arises from left side of urinary bladder

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	3	4
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	2	3
20000 MG/M3	24	172	0	0

visceral - individual
ABDOMEN/THORAX: Ventricle small; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

visceral - combined
ABDOMEN/THORAX: Abnormal spleen

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	0	0
2000 MG/M3	23	165	2	2
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - combined
ABDOMEN/THORAX: Abnormal thoracic/cervical blood vessels

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	2	2
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

visceral - combined
ABDOMEN/THORAX: Malpositioned urogenital organs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	25	178	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	162	0	0
20000 MG/M3	24	172	0	0

Skeletal Variations and Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	17	39
2000 MG/M3	23	165	16	29
10000 MG/M3	24	163	18	42
20000 MG/M3	24	171	18	42

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	176	17	39
2000 MG/M3	23	165	16	29
10000 MG/M3	24	163	18	42
20000 MG/M3	24	171	18	42

Skeletal Variations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	17	39
2000 MG/M3	23	165	16	29
10000 MG/M3	24	163	18	42
20000 MG/M3	24	171	18	42

Skeletal Variations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	17	39
2000 MG/M3	23	165	16	29
10000 MG/M3	24	163	18	42
20000 MG/M3	24	171	18	42

Skeletal Malformations - combined
All Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

Skeletal Malformations - combined
Alive Fetuses

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/FORELIMB (All bones): Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/FOREPAW (All bones): Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/FOREPAW (Metacarpal 1 anlage): Misshapen; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/FOREPAW (Proximal phalanges 2-4): Unossified; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/HINDLIMB (All bones): Duplication or extra bones; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/HINDPAW (All bones): Duplication or extra bones; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/HINDPAW (Calcaneus): Advanced; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/PECTORAL GIRDLE (All bones):
Duplication or extra bones; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/PELVIC GIRDLE (All bones):
Duplication or extra bones; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/RIBS (All bones): Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/RIBS (C7 and T1 Anlage):
Fused; Anlage on C7 and T1 rib fused before it meets sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/RIBS (C7, C7 Anlage): Cervical rib; Bilateral

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/RIBS (L1): Well-formed; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	1	1

skeletal - individual
SKELETAL/RIBS (Right twin T8 left, Left twin T8 right): Fused; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/RIBS (T13): Short last rib; Right

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	2	2
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/RIBS: Rudimentary supernumary ribs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	9	17
2000 MG/M3	23	165	10	15
10000 MG/M3	24	163	13	23
20000 MG/M3	24	171	13	24

skeletal - individual
SKELETAL/SKULL (Interparietal): Misshapen

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/SKULL (Squamosal Process): Hypoplastic; Left

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/SKULL (Supraoccipital,Interparietal,Parietals,Frontals,Nasals):
Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/SKULL (Tympanics): Hypoplastic

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/STERNEBRAE (All bones): Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/STERNEBRAE (VI): Advanced

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	1	1
2000 MG/M3	23	165	2	2
10000 MG/M3	24	163	1	2
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/STERNEBRAE: Asymmetric sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	2	2
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	1	2

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/STERNEBRAE: Bifid sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	1	1

skeletal - individual
SKELETAL/STERNEBRAE: Dumbbell-shaped sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	1	3

skeletal - individual
SKELETAL/STERNEBRAE: Hypoplastic sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	1	1

skeletal - individual
SKELETAL/STERNEBRAE: Misshapen sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	3	4
2000 MG/M3	23	165	3	6
10000 MG/M3	24	163	2	2
20000 MG/M3	24	171	5	5

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/STERNEBRAE: Unossified sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	3	3
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	3	5
20000 MG/M3	24	171	6	10

skeletal - individual
SKELETAL/VERTEBRAE (All bones): Duplication or extra bones

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/VERTEBRAE (CE3 Anlage): Bifid centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	1	1

skeletal - individual
SKELETAL/VERTEBRAE (L): One less presacral vertebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/VERTEBRAE (L1): Misshapen centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	0	0
10000 MG/M3	24	163	1	1
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/VERTEBRAE (Left twin CE 1-7): Fused

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/VERTEBRAE (Left twin T2): Unossified centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

skeletal - individual
SKELETAL/VERTEBRAE (Left twin T3): Hemicentra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	0	0
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	0	0
20000 MG/M3	24	171	0	0

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - individual
SKELETAL/VERTEBRAE: Bifid vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	6	7
2000 MG/M3	23	165	6	6
10000 MG/M3	24	163	3	6
20000 MG/M3	24	171	5	5

skeletal - individual
SKELETAL/VERTEBRAE: Dumbbell-shaped vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	3	3
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	2	3
20000 MG/M3	24	171	2	2

skeletal - individual
SKELETAL/VERTEBRAE: Dumbbell-shaped vertebral centra anlage

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	8	12
2000 MG/M3	23	165	4	4
10000 MG/M3	24	163	5	9
20000 MG/M3	24	171	3	3

skeletal - combined
SKELETAL/RIBS: Supernumerary ribs

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	9	18
2000 MG/M3	23	165	10	15
10000 MG/M3	24	163	13	23
20000 MG/M3	24	171	13	24

APPENDIX K – STATISTICIAN'S REPORT (CONT'D)

skeletal - combined
SKELETAL/STERNEBRAE: Hypoplastic sternebrae

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	3	3
2000 MG/M3	23	165	1	1
10000 MG/M3	24	163	4	6
20000 MG/M3	24	171	7	12

skeletal - combined
SKELETAL/VERTEBRAE: Hypoplastic vertebral centra

DOSE	dams examined	fetuses examined	dams affected	fetuses affected
0 MG/M3	24	176	7	10
2000 MG/M3	23	165	7	8
10000 MG/M3	24	163	4	8
20000 MG/M3	24	171	6	6

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY
TESTING FACILITY – ANNANDALE, NJ

SUPPLIER: Charles River Laboratories, Inc.

FEED: PMI Certified Rodent Chow (5002 Meal)

STUDY NUMBER	STUDY DATES	SUPPLIER LOCATION/AREA	SPECIES/STRAIN	NUMBER OF LITTERS/FETUSES	% PREGNANT	DOSING ROUTE/CARRIER
9A	May 9, 2000 – June 2, 2000	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	25/398	100	Oral/Corn Oil
9B	May 9, 2000 – June 2, 2000	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	25/401	100	Oral/Corn Oil
10	May 19, 2001 – June 15, 2001	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	24/359	96	Inhalation/Air
11	August 19, 2001 – September 18, 2001	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	24/358	96	Inhalation/Air
12	November 18, 2001 - December 20, 2001	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	25/389	100	Inhalation/Air
13	February 3, 2002 – March 8, 2001	Raleigh, NC/R04	Crl:CD®(SD)IGSBR VAF/Plus	25/374	100	Inhalation/Air

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D) (UTERINE IMPLANTATION DATA)

	NUMBER OF LITTERS	LIVE	MALE	FEMALE	RESORPTIONS	IMPLANTS	CORPORA LUTEA	DEAD	FETUS/ IMPLANTS	RESORPTIONS/ IMPLANTS	F/I TRANSFORMED
HIGH		16.04	7.92	8.36	0.72	16.48	17.16	0	0.98	0.05	80.376320
LOW		14.92	7.17	7.42	0.32	15.50	15.96	0	0.95	0.02	77.306160
STUDY #											
13	25	14.96	7.36	7.60	0.72	15.68	15.96	0	0.95	0.05	77.306160
STD		3.12	2.45	2.42	0.84	3.09	3.18	0	0.07	0.07	6.507916
(N)		25	25	25	25	25	25	25	25	25	25
12	25	15.56	7.92	7.64	0.32	15.88	16.40	0	0.98	0.02	80.376320
STD		2.92	2.64	2.38	0.56	2.88	2.99	0	0.04	0.03	3.947106
(N)		25	25	25	25	25	25	25	25	25	25
11	24	14.92	7.17	7.75	0.63	15.54	16.04	0	0.96	0.04	78.114083
STD		2.19	2.57	2.27	0.77	1.82	1.94	0	0.05	0.05	5.545914
(N)		24	24	24	24	24	24	24	24	24	24
10	24	14.96	7.54	7.42	0.58	15.50	16.42	0	0.97	0.04	78.883958
STD		3.07	2.90	2.55	0.83	3.18	3.41	0	0.05	0.05	5.408551
(N)		24	24	24	24	24	24	24	24	24	24
9(B)	25	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
9(A)	25	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 FOR ANNANDALE, NJ FACILITY (CONT'D) (UTERINE IMPLANTATION DATA)

	NUMBER OF LITTERS	R/I TRANSFORMED	D/I TRANSFORMED	DEAD/ IMPLANTS	PRE IMPLANT LOSS	POST IMPLANT LOSS	MALFORMATIONS	VARIATIONS	AFFECTED
HIGH		12.694280	7.473	0	5.1	5.1	0.25	1.4	1.00
LOW		9.624000	7.103	0	1.60	2.0	0.08	0	0.40
STUDY #									
13	25	12.694280	7.473	0	1.6	5.1	0.24	1.40	1.00
STD		6.507867	1.521	0	2.7	6.7	0.52	1.60	1.00
(N)		25	25	25	25	25	25	25	25
12	25	9.624000	7.326	0	3.0	2.0	0.10	1.40	0.40
STD		3.947128	0.905	0	3.9	3.4	0.30	1.20	0.60
(N)		25	25	25	25	25	25	25	25
11	24	11.886500	7.324	0	3.0	4.2	0.25	1.10	0.90
STD		5.545880	0.446	0	3.9	5.4	0.53	1.10	1.10
(N)		24	24	24	24	24	24	24	24
10	24	11.402500	7.455	0	5.1	3.3	0.17	0.70	0.80
STD		5.349722	1.087	0	12.6	5.4	0.38	0.80	0.80
(N)		24	24	24	24	24	24	24	24
9(B)	25	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
9(A)	25	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 FOR ANNANDALE, NJ FACILITY (CONT'D) (FETAL BODY WEIGHTS)

	NUMBER OF LITTERS	MALE	FEMALE
HIGH		5.75	5.50
LOW		5.41	5.16
STUDY #			
13	25	5.49	5.17
STD		0.33	0.37
(N)		184	190
12	25	5.59	5.36
STD		0.36	0.32
(N)		198	191
11	24	5.52	5.25
STD		0.38	0.45
(N)		172	186
10	24	5.75	5.50
STD		0.35	0.34
(N)		181	178
9(B)	25	5.41	5.16
STD		0.45	0.39
(N)		196	205
9(A)	25	5.61	5.31
STD		0.38	0.37
(N)		189	209

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D) (EXTERNAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	25	25
NUMBER OF FETUSES	374	389	358	359	401	398
% STUNTED - F	0.27	0.26	0.84	0	1.25	0
% STUNTED - L	4.00	4.00	8.33	0	16.00	0
% EXT. VAR. - F	0	0	0	0	0	0
% EXT. VAR. - L	0	0	0	0	0	0
% EXT. MAL - F	0.53	0.26	0.56	0.28	0	0.50
% EXT. MAL. - L	8.00	4.00	8.33	4.17	0	8.00
Malrotated hindpaw - F	0.53	0.26	0.28	0.28		0.50
Malrotated hindpaw - L	8.00	4.00	4.17	4.17		8.00
Filamentous tail - F			0.28			
Filamentous tail - L			4.17			

NOTE: F - Fetus
L - Litter
Blank entries for an observation indicate that the observation was not present in that study

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D) (INTERNAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	25	25
NUMBER OF FETUSES	182	195	181	178	197	201
% VIS. VAR. - F	0.55	0	0	0	0	1.00
% VIS. VAR. - L	4.00	0	0	0	0	4.00
% VIS. MAL. - F	2.19	0.51	2.21	1.69	1.02	0.50
% VIS. MAL. - L	12.00	4.0	16.67	12.50	4.00	4.00
Olfactory bulb: Misshapen - F		0.51				
Olfactory bulb: Misshapen - L		4.00				
Microphthalmia - F					0.51	
Microphthalmia - L					4.00	
Retinal fold - F	1.64			1.12		
Retinal fold - L	8.00			8.33		

NOTE: F - Fetus
L - Litter

Blank entries for an observation indicate that the observation was not present in that study

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D)
(INTERNAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	25	25
NUMBER OF FETUSES	182	195	181	178	197	201
Hydronephrosis - F			1.66			
Hydronephrosis - L			12.50			
Ureter(s): Convoluted - F						1.00
Ureter(s): Convoluted - L						4.00
Hydroureter - F			0.55	0.56	0.51	0.50
Hydroureter - L			4.17	4.17	4.00	4.00
Umbilical artery: Left of urinary bladder - F	0.55					
Umbilical artery: Left of urinary bladder - L	4.00					
Testis(es): Malpositioned - L	0.55					
Testis(es): Malpositioned - F	4.00					

NOTE: F - Fetus
L - Litter

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D) (SKELETAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	$	$
NUMBER OF FETUSES	192	194	177	181	$	$
% SKEL. VAR. - F	17.80	15.46	15.25	8.84	$	$
% SKEL. VAR. - L	76.00	60.00	54.17	50.00	$	$
% SKEL. MAL. - F	0	0	1.13	0	$	$
% SKEL. MAL. - L	0	0	8.33	0	$	$
Sternebrae: Advanced - F	1.05					
Sternebrae: Advanced - L	8.00					
Sternebrae: Bifid - F	0.52					
Sternebrae: Bifid - L	4.00					
Sternebrae: Hypoplastic - F		1.03				
Sternebrae: Hypoplastic - L		4.00				
Sternebrae: Unossified - F	1.05		1.7	1.10		
Sternebrae: Unossified - L	8.00		8.33	8.33		
Sternebral anlage: Hypoplastic - F			2.82			
Sternebral anlage: Hypoplastic - L			12.50			
Vertebrae: Absent multiple - F			0.56			
Vertebrae: Absent multiple - L			4.17			
Vertebral centra: Bifid- F	5.76	10.82	6.78	1.10		
Vertebral centra: Bifid- L	36.00	48.00	29.17	8.33		

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D)
(SKELETAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	$	$
NUMBER OF FETUSES	192	194	177	181	$	$
Vertebral centra: Dumbbell/8-shaped - F	0.52	0.52		1.10		
Vertebral centra: Dumbbell/8-shaped - L	4.00	4.00		8.33		
Vertebral centra: Misshapen - F			0.56			
Vertebral centra: Misshapen- L			4.17			
Vertebral centra: Unossified - F			0.56			
Vertebral centra: Unossified - L			4.17			
Vertebrae: Supernumerary presacral Lumbar - F	0.52		0.56			
Vertebrae: Supernumerary presacral Lumbar - L	4.00		4.17			
Vertebral centra anlage: Bifid - F	0.52					
Vertebral centra anlage: Bifid - L	4.00					
Vertebral centra anlage: Dumbbell/8 shaped - F	5.24	1.55				
Vertebral centra anlage: Dumbbell/8 shaped - L	28.00	12.00				
Vertebral centra anlage: Hypoplastic - F			1.69			
Vertebral centra anlage: Hypoplastic - L			12.50			
Vertebral centra anlage: Misshapen - F			0.56			
Vertebral centra anlage: Misshapen - L			4.17			
Rib(s): Rudimentary lumbar - F	8.90	4.12	1.70	5.52		
Rib(s): Rudimentary lumbar - L	40.00	24.00	12.50	25.00		
Rib(s): Rudimentary thoracic - F	0.52					
Rib(s): Rudimentary thoracic - L	4.00					
Rib(s): Well formed lumbar - F	0.52					
Rib(s): Well formed lumbar - L	4.00					

APPENDIX L - HISTORICAL CONTROL DATA FOR ANNANDALE, NJ FACILITY (CONT'D)
(SKELETAL DATA)

STUDY #	13	12	11	10	9(B)	9(A)
NUMBER OF LITTER	25	25	24	24	$	$
NUMBER OF FETUSES	192	194	177	181	$	$
Rib(s) anlage: Hypoplastic - F			2.82			
Rib(s) anlage: Hypoplastic - L			12.50			
Rib(s) anlage: Site of ossification - F			1.13			
Rib(s) anlage: Site of ossification - L			4.17			

NOTE: F - Fetus
L - Litter
$ - Not examined

APPENDIX M – FEED AND WATER ANALYSES
FEED ANALYSES

LabDiet PMI NUTRITION

Return to Certified Analysis Retrieval

Product Code: 5002M
Product Desc: CERTIFIED RODENT DIET MEAL
Lab Number: L0127004-3
Lot Code: NOV 13 01 1C
Entered: 11/14/2001

Assay	Analysis	Units
PROTEIN	21.2	%
FAT (ACID HYDRO.)	5.65	%
FIBER (CRUDE)	4.18	%
ARSENIC	0.212	PPM
CADMIUM	LESS THAN 0.05	PPM
CALCIUM	1.03	%
LEAD	0.177	PPM
MERCURY	LESS THAN 0.025	PPM
PHOSPHORUS	0.712	%
SELENIUM	0.288	PPM

ORGANOPHOSPHATES	PPM	ORGANOPHOSPHATES	PPM
Diazinon	LESS THAN 0.02	Disulfoton	LESS THAN 0.02
Ethion	LESS THAN 0.02	Malathion	0.17
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

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)
FEED ANALYSES

LabDiet PMI NUTRITION

Return to Certified Analysis Retrieval

Product Code: 5002M
Product Desc: CERTIFIED RODENT DIET MEAL
Lab Number: L0212525-1
Lot Code: FEB 15 02 1A
Entered: 2/19/2002

Assay	Analysis	Units
PROTEIN	21	%
FAT (ACID HYDRO.)	5.62	%
FIBER (CRUDE)	3.92	%
ARSENIC	LESS THAN 0.2	PPM
CADMIUM	0.062	PPM
CALCIUM	0.830	%
LEAD	0.177	PPM
MERCURY	LESS THAN 0.025	PPM
PHOSPHORUS	0.685	%
SELENIUM	0.308	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

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 ANALYSES

ExxonMobil Biomedical Sciences, Inc.

Memorandum

To PE Wing Animal Facility Supply Water Analysis Files

Re Analysis Results for 24-Jan-02 Sample

From R. C. Forgash RF 20-Feb-02

Date February 20, 2002

EXTRA COPY RF 20-Feb-02

The results of the PE wing animal facility supply water analysis from the sample collected on 24-Jan-02 revealed no contaminant levels above the maximum contaminant levels. The only noteworthy results were those listed below.

	Result	MCL
Chloroform	0.72 µg/l	80 µg/l *
Total Plate Count	1 CFU/ml	100 CFU/ml

All reported values for this water analysis are judged acceptable.

Key:
- * = Total for Trihalomethanes
- MCL = Maximum Contaminant Level
- µg/l = micrograms per liter
- CFU/l = Colony Forming Units per milliliter

cc: J. J. Freeman

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	**Date Sampled:**	01/24/02
Matrix:	DW - Drinking Water	**Date Received:**	01/24/02
Method:	EPA 624	**Percent Solids:**	n/a
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)	111%		73-127%
2037-26-5	Toluene-D8 (SUR)	98%		88-111%
460-00-4	4-Bromofluorobenzene (SUR)	83%		75-114%

ND = Not detected
MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Page 1 of 2

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
Method:	EPA 625 EPA 625	Percent Solids:	n/a
Project:	Lab Animal Room Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R21946.D	1	02/02/02	CBD	01/28/02	OP10919	ER682
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		10	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 ANALYSES

Accutest Laboratories

Report of Analysis

Page 2 of 2

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
Method:	EPA 625 EPA 625	Percent Solids:	n/a
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	10	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	66%		15-93%
4165-62-2	Phenol-d5	25%		10-76%
118-79-6	2,4,6-Tribromophenol	98%		38-144%
4165-60-0	Nitrobenzene-d5	89%		43-126%
321-60-8	2-Fluorobiphenyl	82%		38-130%
1718-51-0	Terphenyl-d14	92%		24-155%

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ND = Not detected
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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
Method:	EPA 508 EPA 508	Percent Solids:	n/a
Project:	Lab Animal Room Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX26022.D	1	01/28/02	KLS	01/28/02	OP10914	GXX600
Run #2	WW30054.D	1	01/29/02	YYX	01/28/02	OP10914	GWW1007

Pesticide/PCB PPL List

CAS No.	Compound	Result	MCL	RL	Units	Q
309-00-2	Aldrin	ND [a]		0.0076	ug/l	
319-84-6	alpha-BHC	ND [a]		0.0056	ug/l	
319-85-7	beta-BHC	ND [a]		0.0049	ug/l	
319-86-8	delta-BHC	ND [a]		0.0076	ug/l	
58-89-9	gamma-BHC (Lindane)	ND [a]	0.20	0.0056	ug/l	
12789-03-6	Chlordane	ND [a]	0.50	0.19	ug/l	
60-57-1	Dieldrin	ND [a]		0.0066	ug/l	
72-54-8	4,4'-DDD	ND [a]		0.014	ug/l	
72-55-9	4,4'-DDE	ND [a]		0.013	ug/l	
50-29-3	4,4'-DDT	ND [a]		0.011	ug/l	
72-20-8	Endrin	ND [a]	2.0	0.0096	ug/l	
1031-07-8	Endosulfan sulfate	ND [a]		0.0076	ug/l	
7421-93-4	Endrin aldehyde	ND [a]		0.0081	ug/l	
959-98-8	Endosulfan-I	ND [a]		0.0051	ug/l	
33213-65-9	Endosulfan-II	ND [a]		0.0076	ug/l	
76-44-8	Heptachlor	ND [a]	0.40	0.0076	ug/l	
1024-57-3	Heptachlor epoxide	ND [a]	0.20	0.0061	ug/l	
72-43-5	Methoxychlor	ND [a]	40	0.049	ug/l	
8001-35-2	Toxaphene	ND [a]	3.0	0.34	ug/l	
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.090	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.13	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.30	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.23	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.11	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.27	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	96%	110%	66-121%
877-09-8	Tetrachloro-m-xylene	98%	96%	66-121%
2051-24-3	Decachlorobiphenyl	76%	85%	61-131%
2051-24-3	Decachlorobiphenyl	81%	83%	61-131%

(a) Result is from Run# 2

ND = Not detected
MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
Method:	SW846 8151 SW846 3510C	Percent Solids:	n/a
Project:	Lab Animal Room Water		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF35926.D	1	01/30/02	YYX	01/29/02	OP10915	GEF1972
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	74%		57-158%
19719-28-9	2,4-DCAA	80%		57-158%

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ND = Not detected
MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
		Percent Solids:	n/a
Project:	Lab Animal Room Water		

Metals Analysis

Analyte	Result	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	<0.0050	0.0060	0.0050	mg/l	1	02/13/02	02/13/02	JDM	EPA 200.9	EPA 200.9
Arsenic	<0.0050	0.050	0.0050	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Beryllium	<0.0030	0.0040	0.0030	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Cadmium	<0.0040	0.0050	0.0040	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Calcium	<5.0		5.0	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Chromium	<0.010	0.10	0.010	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Copper	<0.025	1.3	0.025	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Lead	<0.0030	0.015	0.0030	mg/l	1	02/12/02	02/12/02	JDM	EPA 200.9	EPA 200.9
Magnesium	<5.0		5.0	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Manganese	<0.015	0.050	0.015	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Mercury	<0.00020	0.0020	0.00020	mg/l	1	02/05/02	02/05/02	RP	EPA 245.1	EPA 245.1
Nickel	<0.040		0.040	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Selenium	<0.0050	0.050	0.0050	mg/l	1	02/13/02	02/13/02	JDM	EPA 200.9	EPA 200.9
Silver	<0.010	0.10	0.010	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7
Thallium	<0.0020	0.0020	0.0020	mg/l	1	02/14/02	02/14/02	JDM	EPA 200.9	EPA 200.9
Zinc	<0.020	5.0	0.020	mg/l	1	01/30/02	01/30/02	LH	EPA 200.7	EPA 200.7

RL = Reporting Limit
MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)

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APPENDIX M – FEED AND WATER ANALYSES (CONT'D)
WATER ANALYSES

Accutest Laboratories

Report of Analysis

Page 1 of 1

Client Sample ID:	PE105		
Lab Sample ID:	N7196-1	Date Sampled:	01/24/02
Matrix:	DW - Drinking Water	Date Received:	01/24/02
		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	01/25/02	MJC	ACCUTEST
Coliform, Fecal [a]	0		col/100ml	1	01/25/02	MJC,	SM18 9222D
Coliform, Total	NEGATIVE	0		1	01/25/02	MJC	SM18 9223B
Cyanide	<0.010	0.20	mg/l	1	01/31/02	PDC	EPA 335.4
Hardness, Total	<4.0		mg/l	1	02/01/02	JKT	SM19 2340C
Nitrogen, Ammonia	<0.10		mg/l	1	02/06/02	AMS	EPA350.1, SM4500NH3H
Phenols	<0.050		mg/l	1	02/07/02	PDC	EPA 420.2
Plate Count, Total	1		CFU/ml	1	01/25/02	MJC	SM18 9215B
Solids, Total Suspended	<4.0		mg/l	1	01/25/02	KJ	EPA 160.2

(a) Fecal Coliform result confirmed by negative total coliform result.

MCL = Maximum Contamination Level (NJAC 7:10-1 11/96)

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