

**AN ORAL (GAVAGE) TWO-GENERATION  
REPRODUCTION TOXICITY STUDY IN  
SPRAGUE-DAWLEY RATS WITH  
NICKEL SULFATE HEXAHYDRATE**

FINAL REPORT  
Volume 1 of 3

Study Director

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Performing Laboratory

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SLI Study No. 3472.4

(2)

COMPLIANCE STATEMENT

This study was conducted in compliance with the Principles of Good Laboratory Practice as described by the OECD [C(97)186/Final] and SLI's Standard Operating Procedures.

  
\_\_\_\_\_  
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Date 12/22/00

## QUALITY ASSURANCE STATEMENT

This study was inspected by the Quality Assurance Unit and reports were submitted to management and the Study Director in accordance with SLI's Standard Operating Procedures as follows:

<u>Phase</u>	<u>Date</u>
Animal Receipt	01/19/99
Dose Preparation	01/29/99
Body Weights	01/29/99, 02/01/99
Clinical Observations	01/29/99, 02/01/99
Food Consumption	02/01/99
Randomization	02/01/99
Dosing	02/01/99, 03/21/99, 05/26/99
Estrous Evaluation	03/22/99
Detection of Copulatory Plug/Vaginal Smear	04/13/99, 08/19/99
Estrous Cycle Determination	04/13/99, 07/28/99
Pup Identification, Viability, Sexing, External Examinations	05/05/99
Pup Body Weights, Standardization of Litter Sizes	05/10/99
Necropsy	05/17/99, 05/28/99, 10/05/99
Organ Weights	05/17/99, 05/28/99
Preparation for Sperm Motility	05/17/99
Vaginal Opening	06/07/99
Preputial Separation	06/14/99
Cohabitation (F1)	08/18/99
Parturition Detection	05/06/99, 09/10/99
Staining/Tissue/Slide/Block Accountability/ Histology Worksheets	08/25/99, 09/10/99
Gross Necropsy (F2 Nonselected pups)	10/04/99
Trimming, Tissue/Slide/Block Accountability/ Histology Worksheets	10/27/99, 11/03/99, 11/23/99
Sperm Morphology/Sperm Motility Analysis	11/08/99
Sperm Count and Concentration Analysis	11/10/99

## QUALITY ASSURANCE STATEMENT

<u>Phase</u>	<u>Date</u>
Data Audits	09/29/99, 10/05/99, 12/28/99, 12/29/99, 03/20/00, 03/21/00, 03/22/00, 03/23/00, 03/30/00, 04/11/00, 04/18/00, 04/19/00, 04/21/00, 04/26/00, 05/10/00
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Final Report Review	12/22/00
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The final report has been reviewed to assure that it accurately describes the materials and methods, and the reported results accurately reflect the raw data.

Anita M. Bosau  
Anita M. Bosau, RQAP-GLP  
Director of Compliance Assurance

Date 12/22/00

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## SUMMARY

This study was conducted to evaluate the potential effects of nickel sulfate hexahydrate when administered orally to Sprague-Dawley rats over the course of two generations. The study consisted of a vehicle control group (group 1) and four test article treatment groups (groups 2-5). Each group contained 28 rats/sex (F0 and F1 generations). The test article was dissolved in reverse osmosis deionized (RODi) water and administered to the F0 and F1 rats (i.e., F1 rats selected to produce the F2 generation), by once daily oral gavage, at dosage levels of 1.0, 2.5, 5.0 or 10.0 mg/kg/day (groups 2-5, respectively). Dosing of the F0 animals began at 10 weeks (70 days) prior to mating. Dosing of the F1 rats began on postpartum day 22. Control animals (group 1) were administered RODi water under the same experimental conditions, at the equivalent dose volume of 10 mL/kg. For both generations, daily dosing was continued until the day prior to scheduled euthanasia. All adult animals and intact offspring were subjected to a gross necropsy examination at the time of death or scheduled euthanasia. Adult females and their pups (i.e., F2 pups and those F1 pups not selected for the growth phase) were euthanized and necropsied on lactation day 21. Surviving F0 and F1 adult males were euthanized and necropsied after 16 and 18 weeks of treatment, respectively.

All adult animals and offspring were closely examined for indications of toxicity. Experimental endpoints in the F0 and F1 adult rats included survival and clinical observations; body weights and weight gain; food consumption; mating and gestation; parturition and lactation; reproductive indices; estrous cyclicity; sperm parameters; necropsy and organ weights; and histopathology focusing primarily on the male and female reproductive tracts. Throughout lactation, F1 and F2 pups were closely evaluated for clinical signs, viability and growth. Subsequently, F1 pups selected to produce the F2 generation were evaluated for vaginal opening and preputial separation (i.e., the onset of sexual maturation) during the growth phase.

Oral administration of the test article over the course of two generations at dosage levels up to 10.0 mg/kg/day had no effect on F0 or F1 survival, growth, mating behavior, fertility, gestation, parturition or lactation. No treatment-related mortality or clinical signs of toxicity were noted in the F0 or F1 rats, or their offspring, at any dosage level tested. F1 and F2 pup viability and growth were unaffected by test article treatment, and no toxicologically meaningful differences were noted among the groups with respect to estrous cycling, sperm parameters, copulation and fertility indices, precoital intervals, gestation lengths, gross necropsy findings, or the onset of sexual maturation in F1 rats. Slight but statistically significant reductions in absolute and/or relative liver weight were observed in F0 males at the

10.0 mg/kg/day level and F1 males at the 5.0 and 10.0 mg/kg/day levels. These differences were not regarded as toxicologically significant since the relative liver weight values were less than 10% different from the respective control values. Furthermore, histopathological evaluations did not reveal any test article-related changes in the liver, reproductive organs, or other tissues examined in this study.

In summary, oral administration of nickel sulfate hexahydrate to rats over the course of two generations did not produce indications of toxicity or adverse reproductive effects at dosage levels up to 10.0 mg/kg/day. A slight reduction in adult male liver weight was observed at the 10.0 mg/kg/day level in F0 males, and at the 5.0 and 10.0 mg/kg/day levels in F1 males. However, no treatment-related histopathological effects were observed in the liver or other tissues of the 10.0 mg/kg/day rats. Based on these results, 10.0 mg/kg/day is considered a No-Observed-Adverse-Effect Level (NOAEL) for oral administration of nickel sulfate hexahydrate over two generations in rats.

## I. INTRODUCTION

This report details the experimental procedures and results of an oral (gavage) two-generation (2-G) reproduction toxicity study in rats with nickel sulfate hexahydrate. The study was authorized by NiPERA, Inc., Durham, North Carolina, and was conducted at Springborn Laboratories, Inc. (SLI), 640 North Elizabeth Street, Spencerville, Ohio. The study was designed in conformance with OECD Guideline 416, Two-Generation Reproduction Toxicity Study, 26 May 1993. The Sprague-Dawley rat was selected as the experimental model for this study as this species/strain has a proven sensitivity to reproductive toxicants and is the preferred species recommended by OECD for reproductive toxicity studies. Oral administration of the test article was selected since this is a potential route of human exposure. The protocol was signed by the Study Director on January 29, 1999 (GLP initiation date). The in-life phase of the study was initiated on February 1, 1999, and concluded on October 15, 1999.

## II. OBJECTIVE

The purpose of this 2-G study was to evaluate the potential effects of nickel sulfate hexahydrate on the integrity and performance of the reproductive system in male and female rats, including gonadal function, estrous cycling, mating behavior, conception, gestation, parturition, lactation, weaning, growth and development of the offspring.

## III. MATERIALS AND METHODS

### A. Experimental Protocol

The study protocol, protocol amendments and protocol deviations are included in Appendix A.

### B. Test Article and Vehicle Control Material

#### 1. Test Article Receipt, Identification and Storage

The test article was received from Aldrich Chemical Company and identified as follows:



<u>Sponsor's ID</u>	<u>Assigned SLI ID</u>	<u>Physical Description</u>	<u>Receipt Date</u>
Nickel(II) Sulfate Hexahydrate (CAS No. 10101-97-0) Lot No. 08516TQ	S98.001.3472	Blue green crystalline powder	07/08/98

A one gram retention sample of the test article was taken and stored at SLI in the pharmacy. The retention sample and bulk test article were stored at ambient temperature in a tightly closed container. A Certificate of Analysis for the test article, as provided by Aldrich Chemical Company, is included in Appendix B. The stated purity of the test article was 99%.

## 2. Vehicle Control Material

The vehicle control material used in the preparation of the dosing solutions and for administration to control animals was reverse osmosis-deionized (RODi) water from the SLI Pharmacy source.

## 3. Dose Preparation

For each test article treatment group (groups 2-5), a predetermined amount of nickel sulfate hexahydrate was weighed and transferred to a glass mixing container. A sufficient quantity of RODi water was added to the container to achieve the desired mg/mL concentration. Each mixture was stirred vigorously for at least 15 minutes to completely dissolve the test article in the vehicle.

The test article dosing solutions were prepared fresh at least every 21 days during the study and stored refrigerated at approximately 2 to 8°C until use. At the time of each preparation, untreated RODi water was dispensed into daily aliquots for administration to control animals. The physical appearance of the vehicle and test article solutions was recorded at each preparation. The vehicle control and test article solutions for groups 2, 3 and 4 (0.1, 0.25 and 0.5 mg/mL concentrations, respectively) were described as clear colorless solutions, while the test article solution for group 5 (1.0 mg/mL) was described as a clear, pale blue-green solution. Daily aliquots of the dosing solutions were allowed to equilibrate to room temperature prior to use and were stirred continuously throughout dosing.

#### 4. Homogeneity, Stability and Concentration Analyses

The test article was previously demonstrated to be homogeneous and stable in the vehicle for at least 24 hours at room temperature and 21 days when stored refrigerated (SLI Study No. 3472.3)[1]. Therefore, further stability and homogeneity testing were not undertaken.

During the course of the 2-G study, test article dosing solutions (and the vehicle) were analyzed to verify target concentrations. The first preparation for the study, and every other preparation thereafter (i.e., preparations #1, 3, 5, 7, 9 and 11) were analyzed. At each analysis interval, triplicate 10 mL samples were taken from each gavage solution, including the vehicle. Two sets of the samples were packed in ice and shipped to Lancaster Laboratories, Lancaster, Pennsylvania, for analysis by atomic absorption. The third set of samples was retained at SLI as back-up samples. The results of the analyses are presented in Appendix B. The back-up samples were discarded following successful completion of all analytical analyses. Individual signed data reports, upon which the analytical chemistry data are based, have been retained in the SLI study records.

#### C. Animals and Animal Husbandry

Animal housing and care were based on the standards established by the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC) and the guidelines set forth in the Guide for the Care and Use of Laboratory Animals, NIH Publication No. 96-03, 1996.

##### 1. Animal Receipt and Acclimation

A total of 155 male and 155 female Sprague-Dawley CrI:CD<sup>®</sup>(SD)IGS BR rats were received at SLI on January 19, 1999, from Charles River Laboratories, Inc., Kingston, New York. The males and females were ordered from different production areas within Charles River to avoid potential sibling matings. The rats were allowed to acclimate to the laboratory environment for a period of ten days prior to randomization. General health/mortality checks were performed twice daily, in the morning and afternoon. The animals were examined upon receipt and daily thereafter during acclimation for signs of physical or behavioral abnormalities. After several days of gang housing, the animals were separated into individual cages, weighed, and observed in detail for physical or behavioral abnormalities. Only healthy animals were maintained for possible assignment to the study.

## 2. Housing

Animal housing procedures for the 2-G study were as follows:

**F0 Animals:** Upon arrival, the F0 animals were housed two or three per cage in suspended stainless steel caging to allow the animals to adapt to the automatic watering system. After several days of gang housing, the F0 animals were separated into individual cages.

### Mating and Gestation

**Phases:** During mating of the F0 and F1 generations, females were cohabitated with males 1:1 in suspended stainless steel cages. After mating (or completion of the mating phase), the males and females were separated and housed individually in stainless steel caging.

### Parturition and Lactation:

F0 and F1 females were transferred to individual plastic nesting boxes containing direct bedding material for parturition and lactation. Females with positive evidence of mating were transferred to nesting boxes on gestation day 18. Females with no evidence of mating were transferred to nesting boxes at approximately 19 days after initiation of the mating phase.

### Selected F1

**Offspring:** Selected F1 offspring were transferred from nesting boxes to suspended stainless steel caging within one week following completion of weaning. Initially, the selected animals were housed two or three per sex per cage in their respective groups, to allow them to adapt to the automatic watering system. After several days of gang housing, the selected animals were separated into individual stainless steel cages.

## 3. Method of Identification

Metal ear tags displaying unique identification numbers were used as the method of permanent identification for F0 parental animals and selected F1 offspring. A toe tattooing system was used to identify pups in each litter

on postnatal day 0. Color-coded cage cards displaying the study number, animal number, group number and sex were affixed to each cage. F1 offspring selected to produce the F2 generation were ear tagged at the time they were transferred to stainless steel caging (postnatal days 24 to 26).

#### 4. Diet and Drinking Water

PMI Certified Rodent Chow<sup>®</sup> #5002 (Purina Mills, Inc.) and municipal tap water were provided to the animals *ad libitum*. The feed was analyzed by the supplier for nutritional components and environmental contaminants. The lot number and expiration date of each batch of feed used during the study were recorded. The tap water was treated by reverse osmosis and supplied to the animals by an automatic watering system or in water bottles (nesting boxes). Water supplying the facility is analyzed on an annual basis for contaminants according to SLI Standard Operating Procedures. The results of the feed and water analyses are maintained at SLI. Within generally accepted limits, there were no contaminants in the diet or drinking water which would interfere with the conduct of the study.

Beginning on week 23 of the study, animal feed and drinking water samples were collected for analysis of background nickel content. The drinking water samples were collected from the animal room on a monthly basis, and feed samples were taken from each new lot of diet used on the study. The feed and drinking water samples were packed in wet ice and shipped to Lancaster Laboratories, Lancaster, Pennsylvania, for analysis by atomic absorption. The analyses verified that the nickel content in the feed and water samples was below the limit of quantitation for nickel sulfate hexahydrate. Results of the analyses for background nickel content have been retained in the study records.

#### 5. Environmental Conditions

The environmental controls in the animal room were set to maintain room temperature and relative humidity ranges of 65 to 79 °F (18-26 °C) and 30 to 70%, respectively. Environmental control equipment was monitored and adjusted as necessary to minimize fluctuations in the animal room environment. Light timers were set to maintain a 12-hour light/12-hour dark cycle and the room ventilation was set to produce 10 to 15 air changes per hour. The room temperature and relative humidity were recorded a minimum of once daily.

## D. Experimental Procedures

### 1. Study Group Design

The generalized experimental design for the 2-G study is illustrated in the following table:

Group	No. of Parental Animals per Generation		Dosage Material	Dosage Level (mg/kg/day)	Dosage Conc. (mg/mL)	Dosage Volume (mL/kg)
	Male	Female				
1	28	28	RODi Water	0	0	10
2	28	28	Nickel Sulfate Hexahydrate	1.0	0.10	10
3	28	28	Nickel Sulfate Hexahydrate	2.5	0.25	10
4	28	28	Nickel Sulfate Hexahydrate	5.0	0.50	10
5	28	28	Nickel Sulfate Hexahydrate	10.0	1.00	10

### 2. Rationale for Route and Dosage Level Selection

Dosage levels for the 2-G study were selected based on the results of a one-generation reproduction range-finding study in rats with nickel sulfate hexahydrate (SLI Study No. 3472.3)[1]. The dosage levels were selected in an attempt to produce graded responses to the test article.

The range-finding and definitive studies for the rat 2-G study were conducted using gavage (i.e., oral intubation) as the route of exposure, due to palatability problems with nickel in drinking water and bioavailability problems with nickel in food. The range-finding study was designed in two parts. The first part of the range-finding studies was a dose-response probe utilizing small numbers of animals and nickel sulfate hexahydrate exposures of 0, 5, 15, 25, 50, 75, and 150 mg/kg/day. [Note that the lower 95% confidence limit for lethality from nickel sulfate hexahydrate is 170 mg/kg/day.] Lethality was observed at the 150 mg/kg/day exposure level.

The second part of the range-finding study (i.e., a 1-generation reproductive toxicity study) utilized nickel sulfate hexahydrate exposures of 0, 10, 20, 30, 50, and 75 mg/kg/day. These doses had no effect on parental survival, growth, mating behavior, copulation, fertility, implantation, or gestation length. However, evaluation of post-implantation lethality among the offspring of the treated parental rats (i.e., number of pups conceived minus the number of live pups at birth) showed statistically significant increases at the 30 to 75 mg/kg/day exposures and questionable increases at the 10 and 20 mg/kg/day levels (see the following table).

**One-Generation Range-Finding Study  
Post-Implantation Lethality in the Parental (F<sub>0</sub>) Generation of  
Rats Exposed to Nickel Sulfate Hexahydrate by Gavage**

Generation		Historical Control	Exposure Levels mg NiSO <sub>4</sub> •6H <sub>2</sub> O/kg/day					
			0 Control	10 (2.23)	20 (4.5)	30 (6.7)	50 (11.2)	75 (15.6)
F <sub>0</sub>	Mean	1.5 [0.88 - 2.3]	0.38	2.63 {0.7}	1.63	2.29*	2.29**	4.75**
	± SEM		0.26	1.93 {0.3}	0.56	0.75	0.52	0.80

SEM = Standard Error of the Mean

( ) = mg of elemental nickel/kg/day

{ } = Variable recalculation minus one animal with a dead litter

[ ] = Range of responses

\* = Significantly different from control at P<0.05; and \*\* at P<0.01

Two things occurred in the 1-generation study that were unusual: 1) the control post-implantation lethality of  $0.4 \pm 0.3$  was unexpectedly low, and 2) the high post-implantation lethality of the 10 mg/kg/day exposure group was skewed by a single animal with a dead litter. Without that outlier, the Mean  $\pm$  SEM would have been  $0.7 \pm 0.3$ . This value is well within the historical range for nine previous studies at this laboratory in which the post-implantation lethality of the control animals had ranged from 0.88-2.3, with a mean of 1.5. The decrease in perinatal survival evident in the 1-generation range-finding study was anticipated from previous literature reports. The goal of the present studies was to refine the NOAEL and better characterize the dose-response for this endpoint. The 1-generation study also showed that the mean live litter size was significantly decreased at the 75 mg/kg/day level and was lower than historical controls at or above 30 mg/kg/day. Another variable, stillbirth, was significantly increased in all exposure groups except the 50 mg/kg/day group.

Based upon the results of the 1-generation range-finding study, nickel sulfate hexahydrate exposure levels of 0, 1, 2.5, 5.0, and 10 mg/kg/day were administered by gavage to five groups of male and female rats in the definitive 2-G study.

### 3. Randomization and Group Assignment

On day -3, the animals were weighed and examined in detail for signs of physical disorder (detailed clinical observations). Animals determined to be suitable test subjects were randomly assigned to groups using a computer randomization program. The program ranked the animals according to day -3 body weights and randomly assigned the animals to study groups in

a stratified block design. Disposition of animals not assigned to the study was documented in the study records. At in-life initiation, the animals were approximately seven weeks of age with body weights ranging from 205 to 257 grams for males and from 147 to 213 grams for females.

#### 4. Treatment

The test article and vehicle were administered once daily, by oral gavage, to F0 parents and selected F1 offspring (i.e., those F1 pups selected to produce the F2 generation). Individual doses were based on the most recent body weight information. F0 parental animals were treated with the test article or vehicle for 10 weeks (70 days) prior to mating. F1 offspring selected to produce the F2 generation were treated beginning on postpartum day 22. Dosing was continued until the day prior to scheduled euthanasia. All doses were administered using a disposable plastic syringe with attached 18-gauge gavage needle, until the rats were of appropriate size for a 16-gauge gavage needle (e.g., at least 100 g). In addition, all reasonable attempts were made to complete dosing by 10:00 a.m. each day, although this was not always possible due to parturition and other scheduling conflicts.

#### E. Parameters Evaluated

##### 1. Clinical Signs--F0 and F1 Parental Animals

F0 and F1 parental animals were checked for mortality/general health and moribundity twice daily during the study, in the morning and afternoon. Detailed clinical observations were performed once weekly. In addition, cage-side observations for overt signs of toxicity were performed a minimum of once daily, within approximately one-half to two hours following dosing. During gestation and lactation, F0 and F1 females were examined for clinical signs on a daily basis.

Weekly detailed clinical observations began for F0 males and females on the day of in-life initiation. A detailed clinical observation was also performed on all F0 and F1 males and females on the day of scheduled euthanasia.

##### 2. Body Weights--F0 and F1 Parental Animals

F0 and F1 parental animals were weighed on a weekly basis during the study. Weekly weighing of selected F1 animals was initiated following post-

weaning selection. Individual body weights were recorded until scheduled euthanasia. The specific weighing schedule for F0 and F1 males and females was as follows:

- a. Males--recorded once per week and on the day of scheduled euthanasia.
- b. Females--recorded once per week prior to confirmation of copulation. Females with positive mating signs and females that delivered were weighed as follows:

Gestation--days 0, 7, 14 and 20.

Lactation--days 1, 4, 7, 14, 21.

Females with no evidence of copulation and those that failed to deliver were weighed weekly and on the day of scheduled euthanasia.

### 3. Food Consumption--F0 and F1 Parental Animals

Individual food weights were recorded on the same day as the body weights, except during periods of cohabitation and lactation, when food consumption was not measured.

### 4. Estrous Cycle Determinations--F0 and F1 Parental Females

Estrous cycle length and normality were evaluated by daily vaginal smears from all F0 and F1 females for a minimum of three weeks (21 days) prior to mating and throughout cohabitation until evidence of copulation was observed or until conclusion of the mating period. The vaginal smears were performed at approximately the same time each day. The stage of estrous was also determined for each F1 female on the day of scheduled euthanasia.

### 5. Breeding--F0 and F1 Parental Animals

After a minimum of 70 days of treatment, each female was cohabitated with a single randomly selected male from the same treatment group (1:1 pairings). The female was placed in the male's cage. During the breeding phase of the F1 generation, only non-siblings were mated. Each mating pair was observed for positive evidence of copulation once daily during cohabitation. Detection of a vaginal copulatory plug or the presence of sperm in a vaginal smear were the methods used to confirm copulation. The day on which confirmation of mating was made was designated as



day 0 of gestation, and this resulted in separation of the mating pair. The female was returned to her individual cage. If after 14 days no evidence of copulation was observed, the female was separated from her mate and the mating phase was concluded.

#### 6. Parturition--F0 and F1 Parental Animals

Females with confirmed copulation were transferred to individual plastic boxes containing nesting material on gestation day 18. Each female was observed for signs of parturition a minimum of twice daily. The time parturition was first detected and the time parturition was completed were recorded, when possible. Signs of difficult or prolonged delivery were recorded, if observed. The day on which parturition was judged complete was designated as lactation day 0. Females with no evidence of mating were examined for parturition beginning 19 days following initiation of cohabitation.

#### 7. Lactation--F0 and F1 Parental Females

The lactation period extended from days 0 to 21 during which time the dam and litter remained together. Any abnormal nursing or nesting behaviors were noted.

##### a. Method of Individual Pup Identification--F1 and F2 Litters

A toe tattooing system was used to individually identify each pup in the litter. On lactation day 0, pups in each litter were consecutively numbered beginning with dead pups, followed by viable pups.

##### b. Offspring--F1 and F2 Litters

The following parameters were evaluated for each pup during lactation:

- 1) Viability: daily from days 0 to 21.
- 2) External Examinations: days 0, 4, 7, 14 and 21.
- 3) Sex Determinations: days 0, 4, 7, 14 and 21.
- 4) Body Weights: days 1, 4, 7, 14 and 21.

c. Standardization of Litter Sizes--F1 and F2 Litters

On lactation day 4, the size of each litter was adjusted by random selection of pups to yield, as nearly as possible, four males and four females per litter. No adjustments were made for litters of eight pups or less. Culled pups were euthanized by carbon dioxide inhalation and discarded without necropsy.

8. Selection of F1 Parental Animals

At least one pup/sex/litter was randomly selected when possible for mating with another pup from the same group but different litter to produce the F2 generation. The selection procedure was performed when the pups were between postpartum days 4 and 21. Prior to the selection process, each pup was externally examined and the sex verified. Only animals of suitable health were acceptable for selection. A total of 28 male and 28 female F1 pups per group were randomly selected to produce the next generation. Following selection, F1 pups were individually ear tagged and then gang housed (2 or 3 per cage) in stainless steel caging for approximately three days to allow the animals to adapt to the automatic watering system.

9. Developmental Landmarks--F1 Parental Animals

F1 offspring selected to produce the F2 generation were evaluated for vaginal opening and preputial separation as described below.

a. Vaginal Opening

Each F1 female pup selected for mating was observed daily for vaginal opening beginning on postpartum day 33. For each female, daily examinations continued until vaginal opening occurred.

b. Preputial Separation

Each F1 male pup selected for mating was observed daily for separation of the prepuce and the glans penis beginning on postpartum day 40. For each male, daily examination continued until preputial separation occurred.

## 10. Nonselected F1 and F2 Pups

On lactation day 21, all remaining nonselected F1 pups (i.e., those not selected to produce the F2 generation) and all F2 pups were submitted to necropsy for euthanasia and gross necropsy examinations.

## 11. Gross Necropsy

### a. Unscheduled Deaths--F0 and F1 Parental Animals

All F0 and F1 parental animals found dead or euthanized during the study were subjected to a complete gross necropsy examination. The animals were euthanized by carbon dioxide inhalation, when necessary. The necropsy examination included examination of the external surfaces of the body, all orifices, and the cranial, thoracic, abdominal and pelvic cavities and their contents. All gross abnormalities were recorded. Uterine contents were examined and the number of implantation sites was recorded. Uteri with no macroscopic evidence of implantation were placed in 10% aqueous ammonium sulfide solution to enhance the detection of implantation sites, as described by Salewski [2]. The following tissues were preserved in 10% neutral buffered formalin for possible future histopathological examination:

accessory genital organs (epididymides, seminal vesicles, prostate or uterus and vagina)  
adrenals  
all gross lesions  
brain  
cecum  
colon  
duodenum  
esophagus  
heart  
ileum  
jejunum  
kidneys  
liver (3 sections)  
lungs with bronchi  
mammary gland  
pancreas  
pituitary  
spinal cord  
spleen  
stomach  
testes/ovaries  
thymus

thyroid/parathyroid  
trachea  
urinary bladder

b. Scheduled Euthanasia--F0 and F1 Parental Animals

Surviving F0 and F1 parental animals were euthanized following preliminary assessment of male and female reproductive performance. Females were euthanized according to the following schedule:

- 1) Females that Delivered: Lactation Day 21.
- 2) Females with Total Litter Loss: at the time of discovered total litter loss.
- 3) Females that Failed to Deliver (with evidence of mating): 25 days after evidence of mating was detected.
- 4) Females that Failed to Deliver (with no evidence of mating): 25 days after completion of the mating phase.

Surviving F0 and F1 parental animals were euthanized by carbon dioxide inhalation and subjected to a complete gross necropsy examination. The necropsy examination included examination of the external surfaces of the body, all orifices, and the cranial, thoracic, abdominal and pelvic cavities and their contents. All gross abnormalities were recorded. Uterine contents were examined and the number of implantation sites were recorded. Uteri with no macroscopic evidence of implantation were placed in 10% aqueous ammonium sulfide solution to enhance the detection of implantation sites, as described by Salewski [2]. The following organs from all surviving F0 and F1 parental animals were preserved in 10% neutral buffered formalin for possible future histopathological examination:

adrenal glands  
brain  
gross lesions  
kidneys  
liver  
ovaries  
pituitary  
prostate  
right epididymis  
testes (preserved in Bouin's fixative for 48 to 96 hours, rinsed and then retained in 70% isopropyl alcohol)

seminal vesicles (with coagulating glands)  
spleen  
uterus (with oviducts and cervix)  
vagina

c. **Unscheduled Deaths--Nonselected F1 Pups and F2 Pups**

All nonselected F1 pups and F2 pups found dead or euthanized during the study were subjected to a gross necropsy examination, with emphasis on developmental morphology. Pups partially cannibalized but viable, were euthanized by carbon dioxide inhalation and necropsied similar to dead pups. Nonviable cannibalized pups with no apparent deformities were discarded without necropsy.

d. **Scheduled Euthanasia--Nonselected F1 Pups and F2 Pups**

On lactation day 21, all surviving nonselected F1 pups and all F2 pups were euthanized by carbon dioxide inhalation and examined macroscopically for structural abnormalities or other pathological changes. During the examination, special attention was directed to organs of the reproductive system. All gross lesions were preserved in 10% neutral buffered formalin for possible future histopathological examination.

12. **Organ Weights--F0 and F1 Parental Animals**

The following organs from all surviving F0 and F1 parental animals were weighed at scheduled necropsy:

adrenal glands (paired)  
brain  
epididymides (paired)  
kidneys (paired)  
left cauda epididymis (for caudal sperm calculations, millions/g cauda)  
testes (paired, left and right testis)  
liver  
ovaries (paired)  
pituitary  
prostate  
seminal vesicles (paired, with coagulating glands and their fluids)  
spleen  
uterus

### 13. Histopathology--F0 and F1 Parental Animals

All tissues from F0 and F1 parental animals found dead or euthanized moribund during the study, and all tissues from surviving control and high-dose F0 and F1 parental animals were processed and examined microscopically. The tissues were embedded in paraffin, sectioned, mounted on glass slides, and stained with hematoxylin and eosin. The tissues were processed by HistoTechniques, Powell, Ohio, and examined microscopically by Dr. William H. Baker, a board-certified veterinary pathologist.

### 14. Sperm Evaluations--F0 and F1 Parental Males

Sperm was collected from all F0 and F1 parental males euthanized at scheduled necropsy. The F0 and F1 control and high-dose groups were analyzed for sperm count, concentration, motility and morphology assessment. Sperm counts, concentrations and motility analyses were performed utilizing the Hamilton-Thorne IVOS 10 sperm analyzer. Sperm morphology was assessed manually by trained personnel at SLI.

#### a. Cauda Sperm Enumeration and Concentration

The left cauda epididymis was thoroughly homogenized and a sample of the resulting homogenate was analyzed to determine cauda epididymal sperm number and concentration. The cauda sperm counts were expressed in terms of cauda weight (i.e., Millions (M)/(g) left cauda weight). Cauda sperm concentration was expressed as M/mL.

#### b. Sperm Motility

Sperm motility (%) was assessed from sperm samples collected from the vas deferens of F0 and F1 adult males.

#### c. Sperm Morphology

Sperm morphology was assessed by microscopic examination of a minimum of two-hundred sperm per animal at 300-500x magnification. Morphological endpoints were based primarily on head and tail abnormalities, according to a modification of the classification systems described by Linder *et al.* [3] and Seed *et al.* [4]. The mean percentage of normal sperm was calculated for each group.

#### IV. STATISTICAL ANALYSES

Body weights, body weight gains, food consumption, semen parameters, organ weights, gestation lengths, estrous cycle lengths, pup body weights and mean live litter sizes were analyzed by one way analysis of variance [5]. If significance was detected, control to treatment group comparisons were performed using Dunnett's test [6]. Chi-Square test was used to analyze copulation and fertility indices, pup sex ratios, the number of live and dead pups per group (on lactation day 0), pup survival (after lactation day 0), and the number of females exhibiting estrous cyclicity [7]. Post-implantation loss (calculated as the number of implantation scars minus live pups on lactation day 0) was analyzed by Mann-Whitney U test [8]. Statistical analyses were performed by a Digital MicroVax 3100 computer. The level of significance was a minimum of 5% ( $p < 0.05$ ) and all tests were two-tailed. The summary tables indicate the level of significance detected. Group means, standard deviations and sample sizes are included on the summary and individual tables.

#### V. MAINTENANCE OF RAW DATA, SPECIMENS AND RECORDS

The remaining test article will be returned to the Sponsor following completion of all testing with this compound. All original paper data, magnetically encoded records, wet tissue, blocks, slides and the final report will be transferred to the SLI archives and stored for a minimum of ten years. The Sponsor will be consulted prior to final disposition of these items.

#### VI. RESULTS

##### A. Analytical Chemistry Evaluations

###### Appendix B (Analytical Chemistry Results)

Periodic analysis of the test article dosing solutions during the study resulted in average test article recoveries ranging from 97.2 to 107.4%, indicating that the solutions were accurately prepared. No test article was detected in the vehicle control solution at any time.

## B. F0 Generation

### 1. F0 Survival and Clinical Observations

Table 1 (Summary Data)  
Appendix C (Individual Data)

No test article-related mortality or clinical signs of toxicity were noted in the F0 males and females. Various clinical signs were observed during the course of the study; however, these did not follow any pattern which would indicate a relationship to treatment. In addition, clinical signs which were noted tended to be of low incidence and sporadically distributed among the groups.

Two F0 males (groups 2 and 4) and one F0 female (group 5) died spontaneously during the study. The group 4 male (#21654) exhibited clear evidence of gavage injury at necropsy (oro-pharynx perforation). No obvious cause of death was apparent for the remaining group 2 male (#21657) and group 5 female (#452); however, these deaths were considered unrelated to the test article since no spontaneous mortality occurred among similarly treated F1 males and females in groups 3, 4, and 5.

No other spontaneous deaths occurred in the F0 generation; however, one control female (#341) was euthanized due to excessive aggressiveness and one group 4 female (#309) was euthanized for humane reasons. This latter female had a large subcutaneous mass that interfered with the animal's mobility. The occurrence of the mass was judged to be an incidental finding since no other masses were observed in the study.

### 2. F0 Body Weights and Weight Gain

Tables 2-7 (Summary Data)  
Appendices D-I (Individual Data)

No toxicologically meaningful differences in F0 body weights or body weight gain were noted during the study. In F0 females, mean body weight and weight gain were comparable among the groups prior to mating and throughout the gestation and lactation phases. In F0 males, mean body weights were comparable among the groups throughout the study. Mean body weight gain of group 2 males was significantly lower than controls during weeks 6-7; however, this difference was considered unrelated to



treatment since no significant differences in body weight gain were noted at the higher dosage levels.

### 3. F0 Food Consumption

Tables 8 and 9 (Summary Data)  
Appendices J and K (Individual Data)

No statistically significant or toxicologically meaningful differences in F0 food consumption were noted during the study.

### 4. F0 Reproduction Indices

Tables 10 and 11 (Summary Data)  
Appendices L-N (Individual Data)  
Appendix VV (SLI Historical Control Data)

There were no statistically significant or toxicologically meaningful differences in F0 copulation and fertility indices; estrous cyclicity; precoital intervals, or gestation lengths. F0 copulation and fertility indices ranged from 89.3 to 100% and 92.6 to 100%, respectively. Mean F0 precoital intervals ranged from 2.3 to 2.9 days and mean F0 gestation lengths ranged from 21.9 to 22.1 days. The percentage of F0 females with evidence of estrous cycling (i.e., at least three estrous cycles during the evaluation period) ranged from 92.9 to 100%. Mean estrous cycle lengths for the F0 females ranged from 4.2 to 4.6 days.

### 5. F0 Gross Necropsy Observations

Table 12 (Summary Data)  
Appendix O (Individual Data)

Gross necropsy of the F0 animals did not reveal any evidence of treatment-related changes. Those findings which were noted tended to be of low incidence and randomly distributed among the groups.

## 6. F0 Implantation and Post-Implantation Loss Data

Table 13 (Summary Data)  
Appendix P (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant or toxicologically meaningful differences were observed among the groups with respect to mean implantation scar counts, mean number of live pups on lactation day 0, or mean post-implantation loss (calculated as implantation scar count minus live pups on lactation day 0).

## 7. F0 Organ Weight Data

Tables 14 and 15 (Summary Data)  
Appendices Q and R (Individual Data)

Statistically significant differences in F0 organ weights consisted of decreased absolute and relative liver weights in group 5 males; decreased absolute brain weight in the group 3 females, and increased relative liver weight in group 2, 3 and 5 females. None of the statistically significant organ weight differences in F0 females were considered toxicologically meaningful. The significantly higher liver weights of group 2, 3 and 5 females were limited to relative liver weight values (not absolute values) and these were less than 6% different from the control group. The significantly lower absolute brain weight of the group 3 females was limited to this sex-group, with no significant differences in brain weights noted at the higher treatment levels.

## 8. F0 Semen Analysis Data

Table 16 (Summary Data)  
Appendix S (Individual Data)  
Appendix VV (SLI Historical Control Data)

There were no toxicologically meaningful differences in sperm parameters between the control and group 5 males. Sperm count (M/g) was significantly higher in the group 5 males; however, mean sperm count values for both the control and group 5 males remained within the SLI historical control range.

## B. F1 Generation

### 1. F1 Pup Viability

Table 17 (Summary Data)  
Appendix U (Individual Data)  
Appendix VV (SLI Historical Control Data)

No toxicologically meaningful differences were noted in F1 pup viability data. Mean live litter size on lactation day 0 ranged from 11.4 pups/litter in group 5 to 13.6 pups/litter in group 2. No meaningful differences in pup survival were noted on lactation day 0 or throughout the remainder of the lactation period. Pup survival in groups 3 and 4 was significantly higher than controls on lactation days 14 and 21; however, these differences were not toxicologically meaningful since they represented increases rather than decreases in pup survival.

### 2. F1 Pup Observations during Lactation

Table 18 (Summary Data)  
Appendix V (Individual Data)

There were no indications of test article-related clinical signs in the F1 pups. Various clinical observations were noted during the lactation phase; however, these did not follow any pattern which would indicate a relationship to treatment. In addition, clinical signs which were noted tended to be of low incidence and sporadically distributed among the groups.

### 3. F1 Pup Body Weights during Lactation

Table 19 (Summary Data)  
Appendix W (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant or toxicologically meaningful differences were noted in F1 pup body weights during lactation.

#### 4. F1 Developmental Landmarks

Tables 20 and 21 (Summary Data)  
Appendices X and Y (Individual Data)

No treatment-related differences were noted in the onset of vaginal opening or the completion of preputial separation in the F1 offspring. All control and group 5 female pups exhibited vaginal opening by postpartum day 35, while all control and group 5 male pups completed preputial separation by postpartum day 46.

#### 5. F1 Pup Gross Necropsy Observations

Table 22 (Summary Data)  
Appendix Z (Individual Data)

The most notable gross necropsy observations in F1 pups which were found dead consisted of atelectasis and absence of milk in the stomach. Other necropsy findings in F1 pups tended to be of low incidence and randomly distributed among the groups.

#### 6. F1 Parental Survival and Clinical Observations

Table 23 (Summary Data)  
Appendix AA (Individual Data)

No test article-related mortality or clinical signs of toxicity were noted during the growth phase of F1 animals selected to produce the F2 generation. Various clinical signs were observed during the course of the growth phase; however, these did not follow any pattern which would indicate a relationship to treatment. In addition, clinical signs which were noted tended to be of low incidence and sporadically distributed among the groups.

Two group 2 F1 males died spontaneously during the study. One male (#423-03) exhibited evidence of gavage injury. No obvious cause of death was apparent for the other group 2 male (#354-05); however, this death was considered unrelated to test article treatment since no spontaneous deaths occurred at the higher dosage levels.

No other spontaneous deaths occurred in the F1 parental animals; however, one control and one group 4 female died during the early part of the growth phase due to accidental injuries sustained during closing of the animals' cages.

## 7. F1 Parental Body Weights and Weight Gain

Tables 24-29 (Summary Data)  
Appendices BB-GG (Individual Data)

No toxicologically meaningful differences in body weight or body weight gain were noted during the growth phase of the F1 generation. Occasional statistical differences in mean body weight and weight gain were observed; however, these did not follow any pattern which would indicate a relationship to treatment.

In F1 females, mean body weight and weight gain were comparable among the groups throughout gestation. During lactation, mean F1 body weights were comparable among the groups; however, mean weight gain was significantly lower in groups 2 and 4 during lactation days 14-21. These latter differences were not considered toxicologically meaningful since slight weight loss is expected during the final week of lactation and no dose-response pattern was observed.

## 8. F1 Parental Food Consumption

Tables 30 and 31 (Summary Data)  
Appendices HH-II (Individual Data)

There were no toxicologically meaningful differences in F1 food consumption during the growth phase. The only statistically significant difference consisted of an incidentally higher mean food consumption value in group 4 males during weeks 4-5.

## 9. F1 Reproduction Indices

Tables 32 and 33 (Summary Data)  
Appendices JJ and LL (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant differences were noted in F1 copulation and fertility indices; estrous cyclicity; precoital intervals, or gestation lengths. F1 copulation and fertility indices ranged from 88.9 to 96.4% and 88.9 to 100%, respectively. Mean F1 precoital intervals ranged from 2.3 to 3.1 days and mean gestation lengths ranged from 22.0 to 22.1 days.

The percentages of F1 females with evidence of estrous cycling (i.e., at least 3 estrous cycles during the evaluation period) were 66.7, 85.7, 60.7,

59.3, and 60.7% in groups 1-5, respectively. Mean estrous cycle lengths were 5.2, 5.7, 5.2, 5.5, and 6.0 days in groups 1-5, respectively. While neither of these parameters was significantly different among the F1 groups, the number of cycling F1 females in each group was lower and mean F1 cycle lengths were longer compared to the F0 generation. Evaluation of the individual F1 estrous data suggest that these differences are the likely result of inadvertent induction of pseudopregnancy in many of the F1 females, as evidenced by persistent diestrous periods lasting approximately 12 to 16 days [9]. While the presence of pseudopregnancy in the F1 females hinders estrous cycle evaluation and interpretation in this generation, it should be pointed out that there was no evidence of an effect on mating, fertility, mean live litter size, or other reproductive endpoints in the F0 or F1 generations.

#### 10. F1 Parental Gross Necropsy Observations

Table 34 (Summary Data)  
Appendix MM (Individual Data)

Gross necropsy of the F1 parental animals did not reveal any evidence of treatment-related changes. Those findings which were noted tended to be of low incidence and randomly distributed among the groups.

#### 11. F1 Implantation and Post-Implantation Loss Data

Table 35 (Summary Data)  
Appendix NN (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant or toxicologically meaningful differences were observed among the groups with respect to mean implantation scar counts, mean number of live pups on lactation day 0, or mean post-implantation loss (calculated as implantation scar count minus live pups on lactation day 0).

#### 12. F1 Parental Organ Weight Data

Tables 36 and 37 (Summary Data)  
Appendices OO and PP (Individual Data)

Statistically significant differences in F1 organ weight data consisted of lower absolute pituitary weight in group 2 males; higher relative adrenal

weight and lower relative liver weight in group 4 and 5 males; and lower relative liver weight in group 3 and 5 females. No other statistically significant differences in F1 organ weights were noted.

With the possible exception of decreased relative liver weights in the group 4 and 5 males, none of the above organ weight differences in F1 animals were considered toxicologically significant. In F1 males, absolute pituitary weight was significantly different only in group 2, and adrenal weight differences in groups 3 and 5 were limited to relative adrenal weight values. In F1 females, liver weight differences in groups 3 and 5 were limited to relative liver weight values, and these were less than 6% different from the control group. In addition, no differences in absolute or relative liver weight were observed in females of the F0 generation.

Although relative but not absolute liver weights were significantly decreased in F1 males of groups 4 and 5, both absolute and relative liver weight were significantly decreased in group 5 males of the F0 generation. Together, these findings suggest that the liver weight decreases observed in F0 males (group 5) and F1 males (groups 4 and 5) may be test article related.

### 13. F1 Semen Analysis Data

Table 38 (Summary Data)

Appendix QQ (Individual Data)

Appendix VV (SLI Historical Control Data)

No statistically significant or toxicologically meaningful differences in sperm parameters were noted between the control and group 5 F1 males.

### C. F0 and F1 Histopathology

Appendix T (Histopathology Report)

No test article-related microscopic changes were noted in either the F0 or F1 generations. Various microscopic findings were noted; however, these did not follow any pattern which would indicate a relationship to treatment.

## D. F2 Generation

### 1. F2 Pup Viability

Table 39 (Summary Data)  
Appendix RR (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant differences were noted in F2 pup viability data. Mean live litter size on lactation day 0 ranged from 13.5 pups/litter in group 5 to 14.8 pups/litter in group 2. No meaningful differences in pup survival were noted on lactation day 0 or throughout the remainder of the lactation period.

### 2. F2 Pup Observations during Lactation

Table 40 (Summary Data)  
Appendix SS (Individual Data)

There were no indications of test article-related clinical signs in the F2 pups. Various clinical observations were noted during the lactation phase; however, these did not follow any pattern which would indicate a relationship to treatment. In addition, clinical signs which were noted tended to be of low incidence and sporadically distributed among the groups.

### 3. F2 Pup Body Weights during Lactation

Table 41 (Summary Data)  
Appendix TT (Individual Data)  
Appendix VV (SLI Historical Control Data)

No statistically significant or toxicologically meaningful differences were noted in F2 pup body weights during lactation.

### 4. F2 Pup Gross Necropsy Observations

Table 42 (Summary Data)  
Appendix UU (Individual Data)


The most notable gross necropsy observations in F2 pups which were found dead consisted of atelectasis and absence of milk in the stomach. Other necropsy findings in F2 pups tended to be of low incidence and randomly distributed among the groups.



## VII. DISCUSSION AND CONCLUSION


This study was conducted to evaluate the potential effects of nickel sulfate hexahydrate when administered to Sprague-Dawley rats over the course of two generations. Oral (gavage) administration of the test article at dosage levels up to 10.0 mg/kg/day had no effect on F0 or F1 survival, growth, mating behavior, fertility, gestation, parturition or lactation. No treatment-related mortality or clinical signs of toxicity were noted in the F0 or F1 rats, or their offspring, at any dosage level tested. F1 and F2 pup viability and growth were unaffected by test article treatment, and no toxicologically meaningful differences were noted among the groups with respect to estrous cycling, sperm parameters, copulation and fertility indices, precoital intervals, gestation lengths, gross necropsy findings, or the onset of sexual maturation in F1 rats. Slight but statistically significant reductions in absolute and/or relative liver weight were observed in F0 males at the 10.0 mg/kg/day level and F1 males at the 5.0 and 10.0 mg/kg/day levels. These differences were not regarded as toxicologically significant since the relative liver weight values were less than 10% different from the respective control values. Furthermore, histopathological evaluations did not reveal any test article-related changes in the liver, reproductive organs, or other tissues examined in this study.

In summary, oral administration of nickel sulfate hexahydrate to rats over the course of two generations did not produce indications of toxicity or adverse reproductive effects at dosage levels up to 10.0 mg/kg/day. A slight reduction in adult male liver weight was observed at the 10.0 mg/kg/day level in F0 males, and at the 5.0 and 10.0 mg/kg/day levels in F1 males. However, no treatment-related histopathological effects were observed in the liver or other tissues of the 10.0 mg/kg/day rats. Based on these results, 10.0 mg/kg/day is considered a No-Observed-Adverse Effect Level (NOAEL) for oral administration of nickel sulfate hexahydrate over two generations in rats.


  
\_\_\_\_\_  
Joseph C. Siglin, Ph.D., DABT  
Study Director

Date 12/22/00

VIII. REPORT REVIEW

  
\_\_\_\_\_  
Bjorn A. Thorsrud, Ph.D.  
Manager, Developmental and  
Reproductive Toxicology

Date 12-22-00

  
\_\_\_\_\_  
Malcolm Blair, Ph.D.  
Senior Vice President and Managing  
Director

Date 12/21/00

## IX. REFERENCES

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TABLE 1  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

	M A L E				
	1	2	3	4	5
GROUP: LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NORMAL					
-NO CLINICAL SIGNS	432/ 28	413/ 28	409/ 28	425/ 28	456/ 28
DEAD					
-FOUND DEAD	0/ 0	1/ 1	0/ 0	1/ 1	0/ 0
-SCHEDULED EUTHANASIA	28/ 28	27/ 27	28/ 28	27/ 27	28/ 28
ACTIVITY					
-RALES	0/ 0	0/ 0	0/ 0	2/ 1	0/ 0
-LIMPING - RIGHT FORELIMB	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
EXCRETA/EMESIS					
-SOFT STOOLS	3/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-FEW FECES	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
BODY					
-HAIRLOSS	24/ 2	28/ 8	52/ 8	25/ 5	9/ 2
-SCAB (RIGHT SHOULDER)	0/ 0	5/ 2	0/ 0	0/ 0	0/ 0
-SCAB(S) - LEFT SHOULDER	0/ 0	8/ 2	0/ 0	0/ 0	0/ 0
-SCAB(S) - RIGHT SIDE OF NECK	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-REDDISH UROGENITAL STAINING	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
-URINE STAIN	0/ 0	0/ 0	0/ 0	2/ 2	0/ 0
-SWELLING - RIGHT LATERAL THORACIC	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-DEHYDRATION	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-RED AND SWOLLEN - PINNA(E)	0/ 0	2/ 1	0/ 0	0/ 0	1/ 1
EYES					
-REDDENED EYELID(S)	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
-DARK MATERIAL AROUND EYE(S)	0/ 0	7/ 1	3/ 1	3/ 2	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

TABLE 1

	M A L E				
	1	2	3	4	5
GROUP:	LEVEL (MG/KG/DAY):				
	0	1.0	2.5	5.0	10.0
NOSE/MOUTH					
-SCAB(S) - RIGHT CORNER OF MOUTH	0/ 0	0/ 0	1/ 1	2/ 2	0/ 0
-SCAB(S) - LEFT CORNER OF MOUTH	1/ 1	0/ 0	0/ 0	2/ 1	0/ 0
-SCAB(S) - LEFT SIDE OF NOSE	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-DARK MATERIAL AROUND NOSE	1/ 1	0/ 0	0/ 0	4/ 3	1/ 1
-BROKEN INCISOR(S)	6/ 3	6/ 4	2/ 2	2/ 2	2/ 2
-MALALIGNMENT	1/ 1	5/ 1	1/ 1	2/ 1	0/ 0
-DARK MATERIAL AROUND MOUTH	0/ 0	0/ 0	0/ 0	3/ 2	0/ 0
-REDDISH COLOR MATERIAL - IN MOUTH.	1/ 1	0/ 0	1/ 1	1/ 1	0/ 0
-SALIVATION	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-INCISOR(S) - MISSING	1/ 1	2/ 2	2/ 1	0/ 0	0/ 0
-INCISOR(S) - TRIMMED	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-RAISED AREA - LEFT CORNER OF MOUTH	0/ 0	0/ 0	0/ 0	2/ 1	0/ 0
1.0 CM X 0.5 CM X 0.5 CM				2/ 1	0/ 0
OTHER					
- UNDETERMINED AMOUNT OF TEST ARTICLE LOST DURING DOSING - EXPELLED FROM ANIMAL'S MOUTH.	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
- TISSUE IN SYRINGE AFTER ORAL DOSING PERFORMED	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
POST-DOSE OBS					
-SALIVATION	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

TABLE 1

	F E M A L E				
	1	2	3	4	5
GROUP: LEVEL (MG/KG/DAY):	1310/ 28 0	1080/ 28 1.0	1099/ 28 2.5	995/ 28 5.0	1242/ 28 10.0
NORMAL					
-NO CLINICAL SIGNS	1310/ 28	1080/ 28	1099/ 28	995/ 28	1242/ 28
DEAD					
-UNSCHEMULED EUTHANASIA - HUMANE REASONS	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-SCHEDULED EUTHANASIA - GESTATION DAY 25 a	1/ 1	2/ 2	2/ 2	1/ 1	0/ 0
-SCHEDULED EUTHANASIA - TOTAL LITTER LOSS	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-FOUND DEAD	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
-UNSCHEMULED EUTHANASIA - EXCESSIVE AGGRESSIVENESS	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25 b	2/ 2	0/ 0	1/ 1	0/ 0	0/ 0
-SCHEDULED EUTHANASIA	24/ 24	25/ 25	25/ 25	26/ 26	27/ 27
ACTIVITY					
-HOLDS RIGHT FORELIMB UP	0/ 0	0/ 0	0/ 0	10/ 1	0/ 0
-LIMPING - RIGHT FORELIMB	0/ 0	0/ 0	0/ 0	5/ 1	0/ 0
-ACTIVITY DECREASED	0/ 0	0/ 0	0/ 0	5/ 1	0/ 0
-OVERT AGGRESSIVENESS	4/ 1	0/ 0	0/ 0	0/ 0	0/ 0
EXCRETA/EMESIS					
-REDDISH COLORED MATERIAL IN CAGE/TRAY	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-REDDISH COLORED VAGINAL DISCHARGE	1/ 1	0/ 0	0/ 0	2/ 2	1/ 1
BODY					
-HAIRLOSS	51/ 3	187/ 6	131/ 7	257/ 10	180/ 6
-RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.0 CM X 2.0 CM X 1.0 CM)	0/ 0	0/ 0	7/ 1	3/ 1	0/ 0
-RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1.0 CM X 1.0 CM X 0.5 CM)	0/ 0	0/ 0	0/ 0	8/ 1	0/ 0
-SWELLING - RIGHT LATERAL THORACIC -RED AND SWOLLEN PINNA(E)	0/ 0	0/ 0	0/ 0	2/ 2	0/ 0
	0/ 0	0/ 0	73/ 3	1/ 1	46/ 3

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.  
 a EVIDENCE OF MATING/NO DELIVERY.  
 b NO EVIDENCE OF MATING/NO DELIVERY.

TABLE 1

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

	GROUP: LEVEL (MG/KG/DAY):				
	1 0	2 1.0	3 2.5	4 5.0	5 10.0
<b>BODY</b>					
-RIGHT PINNA - SMALL IN SIZE	0/ 0	0/ 0	0/ 0	36/ 1	0/ 0
-SCAB(S) - LEFT HINDLIMB	2/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.5 CM X 3.0 CM X 1.5 CM).	0/ 0	0/ 0	2/ 1	0/ 0	0/ 0
-RAISED AREA - RIGHT LATERAL THORACIC (1.5 CM X 2.0 CM X 1.0 CM).	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-URINE STAIN	0/ 0	0/ 0	0/ 0	11/ 1	0/ 0
-RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3.0 CM X 3.0 CM X 1.5 CM).	0/ 0	0/ 0	8/ 1	1/ 1	0/ 0
-SCAB(S) - LEFT FOREPAW.	0/ 0	0/ 0	3/ 1	0/ 0	0/ 0
-RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5 CM X 0.5 CM X 0.5 CM)	0/ 0	0/ 0	0/ 0	18/ 1	0/ 0
-RAISED AREA - RIGHT LATERAL THORACIC (3.0 CM X 3.0 CM X 1.5 CM)	0/ 0	0/ 0	0/ 0	5/ 1	0/ 0
-RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.0 CM X 2.0 CM X 1.5 CM)	0/ 0	0/ 0	17/ 1	0/ 0	0/ 0
-RAISED AREA - RIGHT LATERAL THORACIC (5.0 CM X 4.0 CM X 3.5 CM)	0/ 0	0/ 0	0/ 0	5/ 1	0/ 0
-EXTREMITIES - PALE IN COLOR	0/ 0	0/ 0	0/ 0	5/ 1	5/ 1
-SWELLING - LEFT INGUINAL MAMMARIES	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
-SWELLING - RIGHT INGUINAL MAMMARIES	0/ 0	0/ 0	9/ 1	0/ 0	1/ 1
-TAIL DISCOLORATION - BLUE	0/ 0	0/ 0	8/ 1	0/ 0	0/ 0
<b>EYES</b>					
-MALPOSITIONED PUPIL - RIGHT EYE	0/ 0	51/ 1	0/ 0	4/ 1	0/ 0
-DARK MATERIAL AROUND EYE(S)	0/ 0	46/ 2	41/ 2	47/ 3	45/ 2
-EYELIDS PARTIALLY CLOSED	0/ 0	0/ 0	0/ 0	38/ 1	0/ 0
-EYE(S) PALE IN COLOR	0/ 0	0/ 0	0/ 0	9/ 1	5/ 1
-REDDENED EYELID(S)	0/ 0	3/ 1	0/ 0	0/ 0	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

TABLE 1  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

	----- F E M A L E -----					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
NOSE/MOUTH						
-SCAB(S) - AROUND MOUTH	20/ 2	1/ 1	1/ 1	1/ 1	1/ 1	5/ 2
-REDDISH NASAL DISCHARGE	1/ 1	1/ 1	0/ 0	0/ 0	1/ 1	0/ 0
-DARK MATERIAL AROUND NOSE	9/ 5	5/ 4	32/ 9	9/ 3	9/ 3	8/ 4
-DARK MATERIAL AROUND MOUTH	9/ 2	4/ 3	18/ 4	4/ 3	4/ 3	13/ 2
-MALALIGNMENT	4/ 1	51/ 3	1/ 1	47/ 3	7/ 1	7/ 1
-SWELLING - NOSE AREA	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0	0/ 0
-INCISOR(S) TRIMMED	4/ 4	28/ 21	22/ 21	34/ 24	25/ 22	25/ 22
-OPEN LESION(S) - NOSE AREA	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0
-INCISOR(S) BROKEN	13/ 2	31/ 3	30/ 3	74/ 5	6/ 2	6/ 2
-INCISOR(S) MISSING	2/ 1	19/ 1	1/ 1	28/ 3	44/ 2	44/ 2
-OPEN LESION(S) - ROOF OF MOUTH	0/ 0	0/ 0	0/ 0	7/ 1	0/ 0	0/ 0
OTHER						
- UNDETERMINED AMOUNT OF DOSE EXPELLED DURING DOSING FROM ANIMALS MOUTH	3/ 3	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
- TWO ADDITIONAL PUPS WERE FOUND DEAD ON LACTATION DAY 2.	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
POST-DOSE OBS						
-SALIVATION	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1
-DARK MATERIAL AROUND EYE(S)	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.



WEEK	GROUP: LEVEL (MG/KG/DAY)	M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
1	MEAN	231	231	231	231	231
	S. D.	11.3	11.4	11.1	11.8	10.8
	N	28	28	28	28	28
2	MEAN	280	279	279	280	280
	S. D.	15.0	14.2	16.7	18.7	12.5
	N	28	28	28	28	28
3	MEAN	324	319	322	319	321
	S. D.	17.7	18.4	22.4	26.0	16.8
	N	28	28	28	28	28
4	MEAN	359	357	359	356	358
	S. D.	21.8	19.1	26.6	30.4	19.5
	N	28	28	28	28	28
5	MEAN	388	386	387	384	384
	S. D.	24.2	21.4	30.8	34.3	23.9
	N	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
6	MEAN	411	407	410	408	407
	S. D.	26.6	23.2	34.3	38.3	26.3
	N	28	28	28	28	28
7	MEAN	431	424	429	429	425
	S. D.	28.5	23.0	36.9	41.2	29.0
	N	28	28	28	28	28
8	MEAN	449	446	449	448	443
	S. D.	31.0	26.5	38.6	44.3	30.4
	N	28	28	28	28	28
9	MEAN	464	459	465	465	456
	S. D.	33.0	29.4	42.2	47.3	32.8
	N	28	28	28	28	28
10	MEAN	482	477	484	484	474
	S. D.	34.7	31.6	45.3	50.2	35.4
	N	28	27	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 2  
 M A L E

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1	2	3	4	5
		0	1.0	2.5	5.0	10.0
11	MEAN	496	488	497	494	486
	S. D.	36.7	33.3	47.0	51.9	36.3
	N	28	27	28	28	28
12	MEAN	501	496	503	503	491
	S. D.	37.8	35.8	45.4	51.8	35.5
	N	28	27	28	27	28
13	MEAN	513	506	514	514	501
	S. D.	40.1	36.6	47.6	52.8	39.2
	N	28	27	28	27	28
14	MEAN	524	514	527	526	510
	S. D.	42.1	37.9	48.8	56.2	39.2
	N	28	27	28	27	28
15	MEAN	529	521	532	529	512
	S. D.	43.4	40.1	49.5	57.7	38.5
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 2

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK	16					
	MEAN	538	529	539	538	521
	S. D.	46.7	43.3	51.2	59.0	42.0
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 2

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
1	MEAN	178	177	176	177	177
	S. D.	10.3	11.4	13.4	11.6	10.6
	N	28	28	28	28	28
2	MEAN	198	197	196	198	197
	S. D.	11.5	14.9	14.5	13.4	11.5
	N	28	28	28	28	28
3	MEAN	216	217	214	217	216
	S. D.	13.1	17.6	17.5	15.3	12.0
	N	28	28	28	28	28
4	MEAN	234	235	230	234	233
	S. D.	15.2	21.1	20.2	17.3	15.2
	N	28	28	28	28	28
5	MEAN	243	244	240	244	243
	S. D.	14.0	21.2	21.6	19.3	16.0
	N	28	28	28	28	28

----- NONE SIGNIFICANTLY DIFFERENT FROM CONTROL -----

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
6	MEAN	252	251	249	253	252
	S. D.	15.8	24.3	21.5	19.3	17.3
	N	28	28	28	28	28
7	MEAN	259	258	256	259	258
	S. D.	18.3	25.7	23.6	21.2	18.0
	N	28	28	28	28	28
8	MEAN	265	266	261	265	266
	S. D.	19.8	26.9	26.5	23.3	18.8
	N	28	28	28	28	28
9	MEAN	268	269	265	267	268
	S. D.	20.0	29.2	25.5	22.8	19.6
	N	28	28	28	28	28
10	MEAN	275	274	272	274	273
	S. D.	20.6	29.0	26.0	24.4	19.8
	N	28	28	28	28	28

----- NONE SIGNIFICANTLY DIFFERENT FROM CONTROL -----

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

WEEK	GROUP:	1	2	3	4	5
	LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
	MEAN	282	282	279	278	280
	S. D.	23.1	28.9	28.2	27.5	21.3
	N	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK	1 TO 2					
	MEAN	49	48	47	49	49
	S. D.	7.2	5.6	6.9	9.0	5.2
	N	28	28	28	28	28
	2 TO 3					
	MEAN	44	40	43	39	41
	S. D.	4.7	9.7	7.2	11.7	6.1
	N	28	28	28	28	28
	3 TO 4					
	MEAN	36	38	37	37	36
	S. D.	5.7	9.7	5.7	7.0	5.7
	N	28	28	28	28	28
	4 TO 5					
	MEAN	29	29	29	28	26
	S. D.	4.7	5.0	5.9	6.7	7.6
	N	28	28	28	28	28
	5 TO 6					
	MEAN	22	21	22	24	23
	S. D.	4.1	5.7	6.3	6.0	5.1
	N	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



TABLE 3

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1	2	3	4	5
6 TO 7	0	21 4.2 28	17* 4.3 28	19 5.2 28	21 5.0 28	18 5.3 28
7 TO 8	0	18 5.9 28	21 5.8 28	20 4.8 28	20 5.3 28	18 5.7 28
8 TO 9	0	15 7.1 28	14 9.2 28	16 6.3 28	16 5.1 28	13 5.6 28
9 TO 10	0	18 5.9 28	18 6.5 27	19 5.5 28	19 6.1 28	18 4.7 28
10 TO 11	0	14 5.2 28	12 5.4 27	13 4.0 28	10 7.0 28	12 3.5 28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05

TABLE 3

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 11 TO 12	MEAN	6	7	6	6	6
	S. D.	4.9	6.2	7.0	10.6	5.3
	N	28	27	28	28	28
12 TO 13	MEAN	12	10	10	11	10
	S. D.	5.0	6.8	5.0	4.9	10.0
	N	28	27	28	27	28
13 TO 14	MEAN	11	9	13	12	9
	S. D.	6.2	6.3	4.5	6.2	6.7
	N	28	27	28	27	28
14 TO 15	MEAN	6	7	5	3	2
	S. D.	7.1	6.9	6.0	4.4	4.7
	N	28	27	28	27	28
15 TO 16	MEAN	8	8	7	9	9
	S. D.	6.7	6.1	8.3	7.0	6.7
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 3

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	1		2		3		4		5	
		MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.
1 TO 2	0	20	5.0	20	5.7	20	5.2	21	5.1	20	4.9
		28	28	28	28	28	28	28	28	28	28
2 TO 3		18	6.2	19	5.5	18	6.3	19	5.5	19	5.1
		28	28	28	28	28	28	28	28	28	28
3 TO 4		18	8.1	19	7.2	16	6.3	18	5.7	17	7.0
		28	28	28	28	28	28	28	28	28	28
4 TO 5		8	6.7	9	7.7	10	5.2	9	5.3	11	6.2
		28	28	28	28	28	28	28	28	28	28
5 TO 6		10	6.6	7	6.0	9	4.2	9	4.3	9	5.4
		28	28	28	28	28	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 3

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	1	2	3	4	5
6 TO 7		0	1.0	2.5	5.0	10.0
	MEAN	6	7	6	6	6
	S. D.	4.6	5.2	5.9	6.2	5.2
	N	28	28	28	28	28
7 TO 8		7	8	6	6	8
	MEAN	5.4	4.7	6.0	4.9	4.5
	S. D.	28	28	28	28	28
8 TO 9		3	3	4	2	2
	MEAN	4.4	7.0	7.2	5.0	5.5
	S. D.	28	28	28	28	28
9 TO 10		7	5	6	7	5
	MEAN	4.4	4.6	4.2	5.1	5.3
	S. D.	28	28	28	28	28
10 TO 11		7	8	7	4	7
	MEAN	5.2	5.5	5.8	8.1	4.4
	S. D.	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 4

DAY	GROUP: LEVEL (MG/KG/DAY)	1		2		3		4		5	
		0	277	1.0	277	2.5	276	5.0	279	10.0	279
DAY 0	MEAN	22.3	28.9	26.1	27.7	27.7	27.7	27.7	27.7	27.7	27.7
	S. D.	24	26	25	26	26	26	26	26	26	26
	N	24	26	25	26	26	26	26	26	26	26
DAY 7	MEAN	30.0	30.4	30.7	30.3	30.3	30.3	30.3	30.3	30.3	30.3
	S. D.	24	26	25	26	26	26	26	26	26	26
	N	24	26	25	26	26	26	26	26	26	26
DAY 14	MEAN	33.1	33.2	31.8	33.1	33.1	33.1	33.1	33.1	33.1	33.1
	S. D.	24	26	25	26	26	26	26	26	26	26
	N	24	26	25	26	26	26	26	26	26	26
DAY 20	MEAN	31.2	38.3	35.0	39.4	39.4	39.4	39.4	39.4	39.4	39.4
	S. D.	24	26	25	26	26	26	26	26	26	26
	N	24	26	25	26	26	26	26	26	26	26

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 5

GROUP:	1	2	3	4	5
LEVEL (MG/RG/DAY):	0	1.0	2.5	5.0	10.0
DAY 0- 7 MEAN	26	27	27	24	28
S. D.	5.9	4.7	8.0	4.3	6.7
N	24	26	25	26	28
DAY 7- 14 MEAN	28	29	28	28	30
S. D.	5.9	4.9	5.5	5.3	7.6
N	24	26	25	26	28
DAY 14- 20 MEAN	59	62	63	61	59
S. D.	12.2	11.3	11.3	12.3	14.4
N	24	26	25	26	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 6

DAY	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
DAY 1	MEAN	300	302	303	302	306
	S. D.	27.4	31.1	27.9	25.0	29.5
	N	25	25	25	26	28
DAY 4	MEAN	314	313	312	313	314
	S. D.	26.3	30.3	25.4	25.5	29.3
	N	25	25	25	26	28
DAY 7	MEAN	323	324	325	325	326
	S. D.	24.2	29.6	25.6	25.5	30.9
	N	25	25	25	26	28
DAY 14	MEAN	343	345	337	343	350
	S. D.	23.3	29.3	25.2	25.5	25.2
	N	24	25	25	26	27
DAY 21	MEAN	339	340	333	338	346
	S. D.	25.6	25.9	21.8	31.6	25.2
	N	24	25	25	26	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 7

GROUP:	1	2	3	4	5
LEVEL (MG/RG/DAY):	0	1.0	2.5	5.0	10.0
DAY 1- 4 MEAN	14	11	9	11	8
S.D.	9.8	11.9	6.5	7.9	13.5
N	25	25	25	26	28
DAY 4- 7 MEAN	9	12	13	12	12
S.D.	7.7	7.4	8.6	10.6	11.6
N	25	25	25	26	28
DAY 7- 14 MEAN	21	21	12	18	21
S.D.	10.4	8.0	10.8	11.8	19.9
N	24	25	25	26	27
DAY 14- 21 MEAN	-4	-5	-4	-5	-4
S.D.	12.9	10.6	15.7	15.4	12.8
N	24	25	25	26	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



		M A L E				
GROUP:		1	2	3	4	5
(MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 1 TO 2	MEAN	25	24	25	25	25
	S. D.	1.9	1.9	1.7	2.3	2.0
	N	28	28	28	28	28
2 TO 3	MEAN	25	25	26	25	25
	S. D.	2.0	1.8	2.4	2.6	2.1
	N	28	28	28	27	28
3 TO 4	MEAN	27	27	27	26	26
	S. D.	2.3	1.7	2.4	2.5	2.0
	N	28	28	28	28	28
4 TO 5	MEAN	28	28	28	26	27
	S. D.	2.6	2.0	2.5	2.9	1.8
	N	27	26	26	28	27
5 TO 6	MEAN	27	27	28	27	26
	S. D.	2.6	1.9	2.5	2.5	1.9
	N	28	28	27	28	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 8  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

		M A L E				
GROUP:		1	2	3	4	5
(MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 6 TO 7	MEAN	27	27	27	27	27
	S. D.	2.3	2.1	2.7	2.7	2.1
	N	28	28	28	28	28
7 TO 8	MEAN	28	28	28	28	27
	S. D.	2.8	2.1	2.6	2.8	2.2
	N	27	28	28	28	28
8 TO 9	MEAN	27	27	27	26	27
	S. D.	2.9	2.9	2.8	2.1	2.2
	N	26	27	27	27	26
9 TO 10	MEAN	27	27	27	27	27
	S. D.	2.5	2.0	2.1	2.6	2.3
	N	24	27	27	27	27
10 TO 11	MEAN	27	27	27	27	27
	S. D.	2.6	1.9	2.3	2.9	2.4
	N	27	26	27	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 8  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

		M A L E				
GROUP:		1	2	3	4	5
(MG/KG/DAY):		0	1.0	2.5	5.0	10.0
12 TO 13						
	MEAN	28	27	28	28	28
	S. D.	2.7	2.4	3.1	2.5	2.9
	N	24	24	27	26	28
13 TO 14						
	MEAN	28	28	29	29	28
	S. D.	3.1	2.2	3.0	3.0	1.9
	N	26	27	27	26	25
14 TO 15						
	MEAN	27	27	27	27	26
	S. D.	2.5	2.1	3.2	2.6	1.9
	N	27	27	28	27	28
15 TO 16						
	MEAN	26	25	26	26	25
	S. D.	2.7	1.9	3.6	2.5	2.1
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL.  
 NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11-12).

TABLE 8  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

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

WEEK	GROUP: (MG/KG/DAY):	1		2		3		4		5	
		MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.	MEAN	S.D.
1 TO 2	0	18	1.4	18	1.7	18	2.0	19	1.6	18	1.5
		28	28	28	28	28	28	28	28	27	27
2 TO 3		18	1.6	18	1.6	18	2.2	18	1.7	18	1.3
		28	28	28	28	28	28	28	28	28	28
3 TO 4		20	4.0	19	2.0	19	2.2	20	1.8	19	1.8
		28	28	28	28	28	28	28	28	28	28
4 TO 5		20	1.7	20	2.3	20	2.2	20	1.8	19	1.9
		27	27	28	28	25	25	26	26	26	26
5 TO 6		20	1.9	19	2.1	20	2.2	20	1.8	20	2.6
		28	28	28	28	27	27	28	28	27	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 8  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

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

WEEK	GROUP: (MG/KG/DAY):	1	2	3	4	5
6 TO 7		0	1.0	2.5	5.0	10.0
	MEAN	19	19	19	19	20
	S. D.	2.0	2.5	2.0	2.4	2.0
	N	28	28	28	27	26
7 TO 8		20	19	19	19	19
	MEAN	1.8	1.8	2.0	2.2	2.4
	S. D.	28	28	28	27	26
8 TO 9		18	18	18	18	18
	MEAN	3.0	1.9	1.7	1.9	2.2
	S. D.	28	27	28	27	26
9 TO 10		19	18	18	19	19
	MEAN	2.1	1.7	1.9	2.1	2.1
	S. D.	28	28	28	27	27
10 TO 11		19	19	19	19	19
	MEAN	1.6	1.6	2.4	3.7	2.1
	S. D.	28	28	28	28	27
	N					

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 9

GROUP:	1	2	3	4	5
LEVEL (MG/RG/DAY):	0	1.0	2.5	5.0	10.0
DAY 0- 7 MEAN	22	22	22	22	23
S. D.	1.9	1.6	2.4	2.4	2.8
N	24	26	25	26	27
DAY 7- 14 MEAN	24	24	24	24	25
S. D.	2.5	1.9	2.3	2.7	3.0
N	24	26	25	26	28
DAY 14- 20 MEAN	24	24	25	25	25
S. D.	2.7	1.8	2.0	3.0	2.6
N	24	26	25	26	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 10  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ESTROUS CYCLICITY DATA

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

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
MEAN CYCLE LENGTH (DAYS)	4.35	4.36	4.17	4.63	4.48
S.D.	0.468	0.515	0.292	1.033	0.646
NO. OF FEMALES EVALUATED	28	28	28	28	28
NO. (%) CYCLING	26 (92.9)	27 (96.4)	26 (92.9)	28 (100.0)	28 (100.0)

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

NOTE: CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE), OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR). THE NO. (%) CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 11  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F0 COPULATION, FERTILITY, PRECOITAL INTERVAL  
 AND GESTATION LENGTH DATA

PAGE 1

		GROUP:				
		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
COPULATION INDEX						
NO. OF ANIMALS PAIRED		25 / 28	28 / 28	27 / 28	28 / 28	28 / 28
PERCENT		89.3	100.0	96.4	100.0	100.0
FERTILITY INDEX						
NO. OF ANIMALS PAIRED		25 / 25	26 / 28	25 / 27	26 / 28	28 / 28
PERCENT		100.0	92.9	92.6	92.9	100.0
PRECOITAL INTERVAL (DAYS)						
MEAN		2.9	2.8	2.3	2.6	2.4
S.D.		1.5	1.4	1.1	1.6	1.2
N		25	28	27	28	28
GESTATION LENGTH (DAYS)						
MEAN		22.0	22.1	21.9	22.0	22.0
S.D.		0.4	0.6	0.4	0.4	0.5
N		24	26	25	26	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: COPULATION INDEX = NO. OF ANIMALS PAIRED WITH SUCCESSFUL COPULATION / NO. OF MATED ANIMALS X 100.  
 FERTILITY INDEX = NO. OF GRAVID FEMALES / NO. OF ANIMALS PAIRED WITH SUCCESSFUL COPULATION X 100.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO GROSS NECROPSY OBSERVATIONS

TABLE 12

	FOUND DEAD				
	1	2	3	4	5
GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS FOUND DEAD	0	1	0	1	0
EXTERNAL APPEARANCE	0	1	0	0	0
-HAIRLOSS	0	0	0	0	0
ESOPHAGUS	0	0	0	1	0
-CONTENT ABNORMAL	0	0	0	1	0
ORO-PHARYNX	0	0	0	1	0
-PERFORATION	0	0	0	1	0
STOMACH	0	0	0	1	0
-CONTENT ABNORMAL	0	0	0	1	0
LARGE BOWEL	0	0	0	1	0
-CONTENT ABNORMAL	0	0	0	1	0
SMALL BOWEL	0	0	0	1	0
-CONTENT ABNORMAL	0	0	0	1	0

TABLE 12

FOUND DEAD OR UNSCHEDULED EUTHANASIA

	F E M A L E				
	1	2	3	4	5
GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS FOUND DEAD OR EUTHANIZED	1	0	0	1	1
EXTERNAL APPEARANCE					
-HAIRCOAT - DARK MATERIAL	0	0	0	1	1
-HAIRCOAT - WET MATTING	0	0	0	1	0
KIDNEYS					
-TAN AREA(S)	0	0	0	0	1
MANDIBULAR LYMPH NODE					
-ENLARGED	0	0	0	1	0
MEDIASTINAL LYMPH NODE					
-ENLARGED	0	0	0	1	0
LUNG/BRONCHI					
-CONSOLIDATED	0	0	0	0	1
-MOTTLED	0	0	0	0	1
SKIN					
-SUBCUTANEOUS MASS	0	0	0	1	0
SPLEEN					
-ENLARGED	0	0	0	1	0
UTERUS					
-NONGRAVID - AMMONIUM SULFIDE NEGATIVE	0	0	0	1	0
-IMPLANTATION SCARS PRESENT	1	0	0	0	1

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO GROSS NECROPSY OBSERVATIONS

GROUP: LEVEL (MG/KG/DAY) :	FOUND DEAD OR UNSCHEDULED EUTHANASIA				
	----- F E M A L E -----				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS FOUND DEAD OR EUTHANIZED	1	0	0	1	1
WHOLE BODY					
- PALE	0	0	0	1	0
BLOOD					
- THIN AND WATERY	0	0	0	0	1

TABLE 12

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY) :	M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	28	27	28	27	28
EPIDIDYMIDES					
-SMALL	0	0	0	2	0
ESOPHAGUS					
-PERFORATION	0	0	0	1	0
EYES					
-REDDENED	1	0	0	0	0
KIDNEYS					
-DILATED PELVIS	1	2	1	2	0
-CALCULI	0	1	1	1	1
-PITTED	0	0	0	1	0
LIVER					
-TAN AREA(S)	0	0	1	0	0
LUNG/BRONCHI					
-FOCI	0	0	0	1	5
-MOTTLED	0	1	0	0	0
ORAL CAVITY					
-INCISOR(S) - BROKEN	0	2	1	0	1
THORACIC CAVITY					
-ADHESION	0	1	0	0	0

TABLE 12

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY) :	M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	28	27	28	27	28
NO REMARKABLE FINDINGS	24	18	23	17	21
EXTERNAL APPEARANCE					
-HAIRLOSS	0	1	2	1	0
-PINNA(E) - SWOLLEN	0	1	0	0	0
-HAIRCOAT - DARK MATERIAL	1	0	0	1	0
PROSTATE					
-TAN AREA(S)	0	0	0	1	0
SKIN					
-SCABBING	0	0	0	2	0
-SUBCUTANEOUS EDEMA	0	0	0	1	0
SPLEEN					
-GRAY AREA(S)	1	0	0	0	0
TESTES					
-LESION	0	1	0	3	1
THYMUS GLAND					
-FOCI	0	1	0	1	0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO GROSS NECROPSY OBSERVATIONS

PAGE 6

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY) :	M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	28	27	28	27	28
URETERS - CONTENT ABNORMAL	0	1	0	0	0
URINARY BLADDER - CALCULI	0	0	0	1	0

TABLE 12

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	24	25	25	26	27
EXTERNAL APPEARANCE					
-HAIRCOAT - DARK MATERIAL	2	1	3	2	1
-HAIRLOSS	1	3	2	5	3
-PINNA(E) - THICKENED	0	0	2	0	1
-PINNA(E) - SMALL	0	0	0	1	0
-TAIL - DISCOLORATION	0	0	1	0	0
DIAPHRAGM					
-THIN AREA(S)	0	0	0	0	1
-HERNIA	1	0	0	0	0
JEJUNUM					
-CONTENT ABNORMAL	0	1	0	0	0
KIDNEYS					
-PITTED	0	1	2	2	1
-CYST(S)	1	0	0	0	0
-ADHESION	2	1	0	1	0
-DILATED PELVIS	1	0	0	0	0
LUNG/BRONCHI					
-DARK RED AREA(S)	0	1	0	0	0
-FOCI	3	2	1	0	2
MAMMARY GLAND					
-MASS	0	0	1	0	0
-PALE	0	0	1	0	0

TABLE 12

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY) :	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	24	25	25	26	27
ORAL CAVITY					
-INCISOR(S) - BROKEN	0	2	0	2	0
-INCISOR(S) - ABSENT	0	0	0	0	1
-INCISOR(S) - MALALIGNED	0	0	0	1	0
SPLEEN					
-LESION	0	0	1	0	0
THYROID/PARATHYROID					
-HEMORRHAGIC AREA(S)	1	0	0	0	0
UTERUS					
-IMPLANTATION SCARS PRESENT	24	25	25	26	27



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO GROSS NECROPSY OBSERVATIONS

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TABLE 12

SCHEDULED EUTHANASIA - TOTAL LITTER LOSS

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED WITH TOTAL LITTER LOSS	0	1	0	0	0
STOMACH - CONTENT ABNORMAL	0	1	0	0	0
UTERUS - RETAINED PUP - IMPLANTATION SCARS PRESENT	0	1	0	0	0

TABLE 12

SCHEDULED EUTHANASIA - GESTATION DAY 25 a

GROUP: LEVEL (MG/KG/DAY) :	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED ON GESTATION DAY 25	1	2	2	1	0
LUNG/BRONCHI - DARK RED AREA(S)	1	0	0	0	0
UTERUS - NONGRAVID - AMMONIUM SULFIDE NEGATIVE	1	2	2	1	0
EXTERNAL APPEARANCE - HAIRLOSS	0	0	1	0	0

a EVIDENCE OF MATING/NO DELIVERY.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO GROSS NECROPSY OBSERVATIONS

PAGE 11

TABLE 12

SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25 a

GROUP: LEVEL (MG/KG/DAY) :	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED ON POSTBREEDING PERIOD DAY 25	2	0	1	0	0
UTERUS					
-NONGRAVID - AMMONIUM SULFIDE NEGATIVE	1	0	1	0	0
-GRAVID -- AMMONIUM SULFIDE POSITIVE	1	0	0	0	0

a NO EVIDENCE OF MATING/NO DELIVERY.

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
-----					
IMPLANTATION SCAR COUNT					
MEAN	13.6	14.6	13.7	13.7	13.5
S. D.	3.27	2.32	2.85	2.15	3.48
N	25	26	25	26	28
NUMBER OF LIVE PUPS (DAY 0)					
MEAN	12.6	13.1 a	12.6	12.5	11.4
S. D.	3.15	3.39	2.81	2.66	3.37
N	25	26	25	26	28
POST-IMPLANTATION LOSS					
MEAN	0.9	1.5	1.2	1.3	2.1
S. D.	1.08	2.23	1.37	1.15	2.27
N	25	26	25	26	28
-----					

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.  
 a INCLUDES ONE FEMALE WITH TOTAL LITTER LOSS ON LACTATION DAY 0.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 14  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

PAGE 1  
 WEEK 16

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
BRAIN	MEAN	2.21	2.16	2.17	2.18	2.17
	S. D.	0.172	0.078	0.118	0.088	0.080
	N	28	27	28	27	28
PITUITARY	MEAN	0.0131	0.0129	0.0134	0.0134	0.0128
	S. D.	0.00168	0.00173	0.00106	0.00209	0.00133
	N	28	27	28	27	28
SPLEEN	MEAN	0.83	0.82	0.83	0.82	0.85
	S. D.	0.115	0.118	0.103	0.156	0.082
	N	28	27	28	27	28
KIDNEYS	MEAN	4.08	4.03	4.15	4.01	3.86
	S. D.	0.383	0.351	0.482	0.429	0.369
	N	28	27	28	27	28
ADRENAL GLANDS	MEAN	0.0575	0.0605	0.0580	0.0601	0.0618
	S. D.	0.00887	0.00743	0.00799	0.00922	0.00799
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

PAGE 2  
 WEEK 16

TABLE 14  
 M A L E

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
<b>SEMINAL VESICLE</b>					
MEAN	2.05	2.16	1.99	2.00	1.96
S. D.	0.377	0.400	0.464	0.343	0.440
N	28	27	28	27	28
<b>PROSTATE</b>					
MEAN	0.99	1.05	1.05	1.08	1.01
S. D.	0.204	0.234	0.172	0.281	0.236
N	28	27	28	27	28
<b>EPIDIDYMIDES</b>					
MEAN	1.36	1.33	1.32	1.31	1.37
S. D.	0.093	0.161	0.120	0.156	0.115
N	28	27	28	27	28
<b>TESTES</b>					
MEAN	3.51	3.43	3.43	3.39	3.44
S. D.	0.296	0.539	0.351	0.402	0.275
N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 14  
 M A L E

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
LEFT TESTIS					
MEAN	1.76	1.70	1.70	1.67	1.72
S. D.	0.152	0.264	0.170	0.285	0.133
N	27	27	28	27	28
RIGHT TESTIS					
MEAN	1.76	1.72	1.72	1.71	1.71
S. D.	0.153	0.281	0.182	0.222	0.171
N	27	27	28	27	28
LIVER					
MEAN	19.67	18.75	19.18	18.65	17.38**
S. D.	2.080	2.217	2.886	3.315	2.366
N	28	27	28	27	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01

TABLE 14  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

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

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
<b>BRAIN</b>					
MEAN	2.03	1.99	1.94**	1.99	2.01
S. D.	0.086	0.093	0.074	0.089	0.074
N	24	25	25	26	27
<b>OVARIES</b>					
MEAN	0.1016	0.0977	0.0988	0.1016	0.0999
S. D.	0.01424	0.01450	0.01422	0.01755	0.01135
N	24	25	25	26	27
<b>PITUITARY</b>					
MEAN	0.0163	0.0155	0.0154	0.0158	0.0164
S. D.	0.00275	0.00235	0.00240	0.00222	0.00277
N	24	25	25	26	27
<b>SPLEEN</b>					
MEAN	0.59	0.61	0.61	0.61	0.62
S. D.	0.078	0.086	0.129	0.089	0.078
N	24	25	25	26	27
<b>KIDNEYS</b>					
MEAN	2.57	2.66	2.55	2.60	2.68
S. D.	0.228	0.227	0.236	0.301	0.211
N	24	25	25	26	27

----- SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01 -----



TABLE 14

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

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
UTERUS					
MEAN	0.43	0.42	0.40	0.39	0.41
S. D.	0.086	0.108	0.088	0.079	0.066
N	24	25	25	26	27
ADRENAL GLANDS					
MEAN	0.0747	0.0791	0.0798	0.0786	0.0790
S. D.	0.00893	0.00961	0.00945	0.01122	0.00891
N	24	25	25	26	27
LIVER					
MEAN	14.61	15.56	15.14	15.23	15.72
S. D.	1.870	1.714	1.458	1.901	1.748
N	24	25	25	26	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 15  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

PAGE 1  
 WEEK 16

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
BRAIN	MEAN	0.411	0.408	0.404	0.409	0.417
	S. D.	0.0327	0.0343	0.0405	0.0446	0.0312
	N	28	27	28	27	28
PITUITARY	MEAN	0.002	0.002	0.002	0.002	0.002
	S. D.	0.0003	0.0003	0.0002	0.0003	0.0003
	N	28	27	28	27	28
SPLEEN	MEAN	0.155	0.155	0.154	0.153	0.162
	S. D.	0.0188	0.0197	0.0158	0.0247	0.0140
	N	28	27	28	27	28
KIDNEYS	MEAN	0.758	0.760	0.769	0.744	0.739
	S. D.	0.0552	0.0577	0.0704	0.0444	0.0478
	N	28	27	28	27	28
ADRENAL GLANDS	MEAN	0.011	0.011	0.011	0.011	0.012
	S. D.	0.0015	0.0015	0.0018	0.0021	0.0018
	N	28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 15  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

PAGE 2  
 WEEK 16

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
<b>SEMINAL VESICLE</b>						
MEAN		0.382	0.407	0.368	0.372	0.375
S. D.		0.0721	0.0726	0.0865	0.0666	0.0810
N		28	27	28	27	28
<b>PROSTATE</b>						
MEAN		0.185	0.199	0.195	0.202	0.195
S. D.		0.0393	0.0474	0.0352	0.0566	0.0482
N		28	27	28	27	28
<b>EPIDIDYMIDES</b>						
MEAN		0.254	0.251	0.246	0.245	0.264
S. D.		0.0265	0.0319	0.0305	0.0359	0.0328
N		28	27	28	27	28
<b>TESTES</b>						
MEAN		0.657	0.646	0.639	0.635	0.663
S. D.		0.0829	0.1040	0.0921	0.0991	0.0771
N		28	27	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 15  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
LEFT TESTIS						
MEAN		0.329	0.322	0.317	0.312	0.332
S. D.		0.0428	0.0504	0.0453	0.0645	0.0390
N		27	27	28	27	28
RIGHT TESTIS						
MEAN		0.327	0.324	0.320	0.320	0.329
S. D.		0.0422	0.0541	0.0466	0.0522	0.0423
N		27	27	28	27	28
LIVER						
MEAN		3.656	3.527	3.530	3.450	3.316**
S. D.		0.3084	0.2706	0.2913	0.4281	0.2575
N		28	27	28	27	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS PAGE 4  
 CLIENT: NIPERA, INC. SUMMARY OF FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS) WEEK 16

TABLE 15

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

	GROUP:				
	1	2	3	4	5
	LEVEL (MG/KG/DAY):				
	0	1.0	2.5	5.0	10.0
BRAIN					
MEAN	0.601	0.586	0.583	0.594	0.584
S. D.	0.0468	0.0407	0.0319	0.0533	0.0340
N	24	25	25	26	27
OVARIES					
MEAN	0.030	0.029	0.030	0.030	0.029
S. D.	0.0046	0.0044	0.0049	0.0045	0.0038
N	24	25	25	26	27
PITUITARY					
MEAN	0.005	0.005	0.005	0.005	0.005
S. D.	0.0007	0.0005	0.0006	0.0006	0.0007
N	24	25	25	26	27
SPLEEN					
MEAN	0.175	0.179	0.184	0.181	0.180
S. D.	0.0201	0.0196	0.0365	0.0217	0.0172
N	24	25	25	26	27
KIDNEYS					
MEAN	0.757	0.783	0.765	0.769	0.777
S. D.	0.0566	0.0391	0.0478	0.0598	0.0585
N	24	25	25	26	27

----- NONE SIGNIFICANTLY DIFFERENT FROM CONTROL -----

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 15  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

PAGE 5  
 WEEK 16

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

	GROUP:					
	1	2	3	4	5	
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0	
UTERUS						
MEAN	0.129	0.122	0.121	0.116	0.119	
S. D.	0.0300	0.0293	0.0239	0.0246	0.0199	
N	24	25	25	26	27	
ADRENAL GLANDS						
MEAN	0.022	0.023	0.024	0.023	0.023	
S. D.	0.0025	0.0027	0.0025	0.0036	0.0020	
N	24	25	25	26	27	
LIVER						
MEAN	4.298	4.570*	4.538*	4.505	4.545*	
S. D.	0.3691	0.3080	0.2770	0.2948	0.4100	
N	24	25	25	26	27	

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05

TABLE 16

SCHEDULED EUTHANASIA

GROUP:	1	5
LEVEL (MG/KG/DAY):	0	10.0
% MOTILITY		
MEAN	91	91
S. D.	3.4	3.6
N	28	28
CONCENTRATION (M/ML)		
MEAN	3.8	4.7
S. D.	1.03	1.06
N	28	28
TOTAL SPERM (M/G)		
MEAN	833.5	1005.7**
S. D.	166.20	216.00
N	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05; \*\* = P<0.01

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI S.

TABLE 16

		SCHEDULED EUTHANASIA				
		1	2	3	4	5
GROUP:		0	1.0	2.5	5.0	10.0
LEVEL (MG/KG/DAY):						
% NORMAL SPERM (MORPHOLOGY)						
MEAN	88.8	90.6	91.1	90.5	84.9	
S. D.	7.76	8.02	4.31	4.28	5.67	
N	27	26	28	26	27	

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: SPERM MORPHOLOGY WAS ONLY REQUIRED FOR GROUPS 1 AND 5 INITIALLY, BUT WAS INADVERTENTLY PERFORMED FOR ALL FO ADULT MALES.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PUP VIABILITY

TABLE 17  
 PAGE 1

	LACTATION DAY 0				
	1	2	3	4	5
GROUP:	0	1.0	2.5	5.0	10.0
LEVEL (MG/KG/DAY):	7	13	7	7	14
NO. DEAD					
NO. LIVE	316	340	314	324	320
NO. LITTERS WITH LIVE OFFSPRING	25	25	25	26	28
MEAN LIVE LITTER SIZE	12.6	13.6	12.6	12.5	11.4
SEX RATIO (MALE: FEMALE)	153: 163	163: 177	154: 160	176: 148	158: 162

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: NO. DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

TABLE 17

DURING LACTATION

DAY	GROUP: LEVEL (MG/KG/DAY):	DURING LACTATION				
		1	2	3	4	5
DAY 1	NO. ALIVE/NO. PUPS PERCENT	314/316 99.4	339/340 99.7	311/314 99.0	322/324 99.4	318/320 99.4
DAY 4 BEFORE SELECTION	NO. ALIVE/NO. PUPS PERCENT	314/316 99.4	337/340 99.1	309/314 98.4	321/324 99.1	315/320 98.4
DAY 4 AFTER SELECTION	NO. ALIVE/NO. PUPS PERCENT	192/192 100.0	200/200 100.0	195/195 100.0	203/203 100.0	214/214 100.0
DAY 7	NO. ALIVE/NO. PUPS PERCENT	192/192 100.0	198/200 99.0	195/195 100.0	203/203 100.0	214/214 100.0
DAY 14	NO. ALIVE/NO. PUPS PERCENT	184/192 95.8	197/200 98.5	195/195 100.0*	203/203 100.0**	205/214 95.8
DAY 21	NO. ALIVE/NO. PUPS PERCENT	184/192 95.8	197/200 98.5	195/195 100.0*	203/203 100.0**	205/214 95.8

-----  
 SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05; \*\* = P<0.01

TABLE 18  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PUP OBSERVATIONS DURING LACTATION  
 (OCCURRENCE/ANIMALS AFFECTED)

	GROUP:				
	1	2	3	4	5
	LEVEL (MG/KG/DAY):				
	0	1.0	2.5	5.0	10.0
NORMAL					
-NO REMARKABLE OBSERVATIONS	1168/316	1237/338	1199/312	1222/324	1221/319
DEAD					
-FOUND DEAD	8/ 8	15/ 15	10/ 10	10/ 10	19/ 19
-CANNIBALIZED	1/ 1	1/ 1	0/ 0	0/ 0	1/ 1
-MISSING - PRESUMED CANNIBALIZED	0/ 0	3/ 3	2/ 2	0/ 0	1/ 1
-UNSCHEDULED EUTHANASIA	8/ 8	0/ 0	0/ 0	0/ 0	8/ 8
-CULLED ON SCHEDULED DAY	122/122	137/137	114/114	118/118	101/101
ACTIVITY					
-LABORED BREATHING	0/ 0	0/ 0	0/ 0	0/ 0	2/ 2
BODY					
-HAIRLOSS - SLIGHT	5/ 3	8/ 8	0/ 0	0/ 0	0/ 0
-OPEN LESION(S)	0/ 0	1/ 1	1/ 1	5/ 5	2/ 2
-PUP COOL TO THE TOUCH	0/ 0	1/ 1	0/ 0	1/ 1	5/ 5
-PUP PALE IN COLOR	0/ 0	1/ 1	1/ 1	0/ 0	4/ 4
-PUP PURPLE IN COLOR	2/ 2	3/ 3	0/ 0	0/ 0	1/ 1
-PUP SMALL IN SIZE	0/ 0	0/ 0	0/ 0	0/ 0	2/ 2
-SCAB(S)	8/ 5	3/ 3	2/ 1	10/ 6	10/ 8
-SUBCUTANEOUS HEMORRHAGE(S)	10/ 10	14/ 14	6/ 6	14/ 14	14/ 14
NOSE/MOUTH					
-SCAB(S) - MOUTH AREA	1/ 1	2/ 2	0/ 0	1/ 1	0/ 0
-SCAB(S) - NOSE AREA	2/ 2	0/ 0	0/ 0	0/ 0	0/ 0
OTHER					
-NO OBSERVABLE MILK IN STOMACH	0/ 0	0/ 0	0/ 0	0/ 0	2/ 2
-PORTION OF TAIL ABSENT	0/ 0	2/ 1	0/ 0	2/ 1	2/ 1
-MECHANICAL INJURY	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 19  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 1

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
DAY 1 MEAN	7.5	7.3	7.5	7.5	7.5
S.D.	1.00	0.68	0.93	0.64	0.95
N	25	25	25	26	28
DAY 4 MEAN BEFORE SELECTION	10.5	10.4	10.9	10.8	10.8
S.D.					
N	25	25	25	26	28
DAY 4 MEAN AFTER SELECTION	10.5	10.3	10.9	10.7	10.8
S.D.					
N	25	25	25	26	28
DAY 7 MEAN	16.5	16.7	17.4	16.9	16.6
S.D.	2.40	2.10	1.98	1.32	2.88
N	25	25	25	26	28
DAY 14 MEAN	33.8	34.2	34.9	34.2	33.6
S.D.	3.01	2.80	2.99	2.35	3.71
N	24	25	25	26	27
DAY 21 MEAN	53.1	54.4	55.4	54.4	53.7
S.D.	4.57	4.55	5.51	3.73	6.06
N	24	25	25	26	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 20  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 VAGINAL OPENING DATA

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

GROUP: LEVEL (MG/KG/DAY):	1		2		3		4	
	NO. COMPLETED	PERCENT	NO. COMPLETED	PERCENT	NO. COMPLETED	PERCENT	NO. COMPLETED	PERCENT
0	23 / 27	85.2	23 / 28	82.1	20 / 28	71.4	20 / 27	74.1
	25 / 27	92.6	27 / 28	96.4	24 / 28	85.7	24 / 27	88.9
	27 / 27	100.0	28 / 28	100.0	26 / 28	92.9	26 / 27	96.3
					27 / 28	96.4	27 / 27	100.0
					27 / 28	96.4		
					28 / 28	100.0		

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

TABLE 20  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
SUMMARY OF F1 VAGINAL OPENING DATA

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

GROUP: 5  
LEVEL (MG/KG/DAY): 10.0

DAY	NO. COMPLETED	PERCENT
33	22 / 28	78.6
34	26 / 28	92.6
35	28 / 28	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 21  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PREPUTIAL SEPARATION DATA

GROUP: LEVEL (MG/KG/DAY):	M A L E							
	1 0	2 1.0	3 2.5	4 5.0	NO. COMPLETED	PERCENT	NO. COMPLETED	PERCENT
DAY 40	3/28	2/28	2/28	2/28	10.7	7.1	7.1	7.1
41	9/28	11/28	7/28	9/28	32.1	39.3	25.0	32.1
42	12/28	17/28	17/28	18/28	42.9	60.7	60.7	64.3
43	21/28	20/28	25/28	23/28	75.0	71.4	89.3	82.1
44	24/28	26/28	27/28	27/28	85.7	92.9	96.4	96.4
45	27/28	26/28	27/28	27/28	96.4	92.9	96.4	96.4
46	28/28	26/28	27/28	27/28	100.0	92.9	96.4	96.4
47		27/28	27/28	28/28		96.4	96.4	100.0
48		27/28	27/28	27/28		96.4	96.4	
49		27/28	28/28	28/28		96.4	100.0	
50		28/28	28/28	28/28		100.0	100.0	

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
SUMMARY OF F1 PREPUTIAL SEPARATION DATA

PAGE 2

TABLE 21

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

GROUP: 5  
LEVEL (MG/KG/DAY): 10.0

DAY	NO. COMPLETED	PERCENT
40	3 / 28	10.7
41	7 / 28	25.0
42	13 / 28	46.4
43	18 / 28	64.3
44	22 / 28	78.6
45	26 / 28	92.9
46	28 / 28	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.



	FOUND DEAD OR UNSCHEDULED EUTHANASIA														
	M A L E					F E M A L E									
GROUP:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0	0	1.0	2.5	5.0	10.0	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS FOUND DEAD OR EUTHANIZED	5	10	4	5	11	11	5	6	5	10					
NO REMARKABLE FINDINGS	4	1	1	2	2	5	1	1	0	1					
KIDNEYS															
-LESION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
-ENLARGED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
-PALE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
-PAPILLAE UNDEVELOPED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
-CONTENT ABNORMAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
LIVER															
-PALE	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
-MOTTLED	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
LUNGS															
-ATELECTASIS	1	5	2	1	6	3	3	3	4	6					
SKIN															
-SUBCUTANEOUS EDEMA	0	2	0	0	1	0	0	1	0	1	0	0	1	0	1
STOMACH															
-MILK NOT PRESENT	1	7	2	2	7	5	4	5	4	6					
-MILK PRESENT	0	0	1	1	1	1	0	0	1	1					
URETERS															
-DISTENDED	0	0	0	0	0	0	0	1	0	3					
URINARY BLADDER															
-DISTENDED	0	0	0	0	0	0	0	0	0	1					

TABLE 22

FOUND DEAD OR UNSCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	M A L E					F E M A L E				
	1	2	3	4	5	1	2	3	4	5
0	1.0	2.5	5.0	10.0	0	1.0	2.5	5.0	10.0	0
5	10	4	5	11	11	5	6	5	10	10

NUMBER OF ANIMALS FOUND DEAD OR EUTHANIZED

ABDOMINAL CAVITY  
 -FLUID CONTENTS

MAJOR VESSELS

- INTERRUPTED AORTIC ARCH
- PATENT DUCTUS ARTERIOSUS

BODY

- APPEARS SMALL IN SIZE AND UNDERDEVELOPED

		SCHEDULED EUTHANASIA									
		M A L E					F E M A L E				
GROUP:		1	2	3	4	5	1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA		61	69	73	74	74	67	72	66	73	75
NO REMARKABLE FINDINGS		60	67	73	72	72	67	71	64	69	71
EXTERNAL APPEARANCE											
-TAIL TIP ABSENT		0	0	0	1	0	0	0	0	0	0
KIDNEYS											
-DILATED PELVIS		1	1	0	0	1	0	0	1	1	3
LIVER											
-NODULE		0	0	0	0	0	0	0	0	1	0
-PALE		0	0	0	0	0	0	0	1	0	0
SKIN											
-SCABBING		0	0	0	1	0	0	0	0	1	0
SPLEEN											
-BIPARTITE		0	0	0	0	0	0	0	0	1	0
THYMUS											
-FOCI		0	0	0	0	1	0	0	0	0	0
URETERS											
-DISTENDED		0	0	0	0	0	0	0	0	1	0
DIAPHRAGM											
-HERNIA		0	0	0	0	0	0	0	0	0	1
-THIN AREA		0	1	0	0	0	0	1	0	0	0

TABLE 23  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
NORMAL						
-NO CLINICAL SIGNS	398/ 28	393/ 28	445/ 28	377/ 28	447/ 28	
DEAD						
-FOUND DEAD	0/ 0	2/ 2	0/ 0	0/ 0	0/ 0	0/ 0
-SCHEDULED EUTHANASIA	27/ 27	26/ 26	28/ 28	28/ 28	28/ 28	28/ 28
ACTIVITY						
-GASPING	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-RALES	0/ 0	1/ 1	0/ 0	1/ 1	0/ 0	0/ 0
-ACTIVITY DECREASED	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
BODY						
-TAIL TIP ABSENT	0/ 0	0/ 0	0/ 0	0/ 0	14/ 2	0/ 0
-SCAB(S) - TAIL	0/ 0	0/ 0	0/ 0	0/ 0	3/ 1	0/ 0
-SCAB(S) - RIGHT FORELIMB	0/ 0	2/ 2	1/ 1	1/ 1	3/ 3	0/ 0
-TAIL BENT - MID PORTION	0/ 0	0/ 0	0/ 0	0/ 0	12/ 1	0/ 0
-SCAB(S) - LEFT LATERAL NECK	6/ 1	0/ 0	0/ 0	0/ 0	0/ 0	0/ 0
-RED AND SWOLLEN PINNA(E)	0/ 0	0/ 0	1/ 1	1/ 1	0/ 0	3/ 1
-SCAB(S) - RIGHT LATERAL NECK	3/ 1	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-HAIRLOSS	79/ 11	66/ 8	12/ 4	68/ 12	25/ 5	
-SCAB(S) - LEFT SHOULDER	2/ 1	5/ 3	0/ 0	0/ 0	0/ 0	0/ 0
-SCAB(S) - RIGHT SHOULDER	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-SCAB(S) - DORSAL HEAD	1/ 1	2/ 1	0/ 0	0/ 0	0/ 0	0/ 0
-SCAB(S) - RIGHT PINNA	0/ 0	0/ 0	2/ 1	0/ 0	0/ 0	2/ 2
-SCAB(S) - LEFT FORELIMB	1/ 1	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
-EXTREMITIES - PALE IN COLOR	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

TABLE 23  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

	M A L E				
	1	2	3	4	5
GROUP: LEVEL (MG/KG/DAY) :	0	1.0	2.5	5.0	10.0
EYES					
-DARK MATERIAL AROUND EYE(S)	0/ 0	2/ 2	12/ 3	18/ 4	9/ 4
-EYELIDS PARTIALLY CLOSED	0/ 0	0/ 0	12/ 2	1/ 1	0/ 0
NOSE/MOUTH					
-SCAB(S) - MOUTH AREA	1/ 1	2/ 2	2/ 2	0/ 0	2/ 2
-DARK MATERIAL AROUND NOSE	1/ 1	4/ 3	2/ 2	0/ 0	0/ 0
-INCISOR(S) - TRIMMED	28/ 28	28/ 28	28/ 28	32/ 28	29/ 28
-MALALIGNMENT	1/ 1	8/ 3	14/ 3	11/ 4	5/ 2
-INCISOR(S) - BROKEN	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-REDDISH COLORED MATERIAL EXUDING FROM MOUTH	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0
-MISSING INCISOR(S)	0/ 0	2/ 1	0/ 0	0/ 0	3/ 1
OTHER					
-UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING	3/ 3	3/ 2	5/ 5	3/ 3	5/ 5
POST-DOSE OBS					
-CONGESTED BREATHING	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

TABLE 23  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

	----- F E M A L E -----					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
NORMAL						
-NO CLINICAL SIGNS	1113/ 28	1145/ 28	1063/ 28	1112/ 28	1079/ 28	
DEAD						
-FOUND DEAD - ACCIDENTAL INJURY	1/ 1	0/ 0	0/ 0	1/ 1	0/ 0	
-SCHEDULED EUTHANASIA - TOTAL LITTER LOSS	0/ 0	0/ 0	1/ 1	0/ 0	1/ 1	
-SCHEDULED EUTHANASIA - GESTATION DAY 25 a	1/ 1	0/ 0	2/ 2	2/ 2	3/ 3	
-SCHEDULED EUTHANASIA	24/ 24	26/ 26	24/ 24	23/ 23	23/ 23	
-SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25 b	2/ 2	2/ 2	1/ 1	2/ 2	1/ 1	
ACTIVITY						
-GASPING	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0	
-LIMPING - LEFT HINDPAW	3/ 1	0/ 0	0/ 0	0/ 0	0/ 0	
EXCRETA/EMESIS						
-FEW FECES	0/ 0	0/ 0	0/ 0	1/ 1	0/ 0	
BODY						
-TAIL TIP ABSENT	0/ 0	0/ 0	0/ 0	0/ 0	6/ 1	
-HAIRLOSS	257/ 9	261/ 8	338/ 12	221/ 10	245/ 11	
-SCAB(S) - LEFT FORELIMB	0/ 0	1/ 1	2/ 1	12/ 5	10/ 2	
-WHITE RAISED AREA - RIGHT FOREPAW	43/ 1	0/ 0	0/ 0	0/ 0	0/ 0	
-RED AND SWOLLEN PINNA(E)	15/ 2	2/ 1	56/ 4	14/ 1	81/ 3	
-SCAB(S) - DORSAL NECK	0/ 0	0/ 0	0/ 0	5/ 1	0/ 0	
-RAISED AREA - VENTRAL THORACIC (1.5 CM X 1.5 CM X 1.0 CM)	0/ 0	0/ 0	22/ 1	0/ 0	0/ 0	
-SWELLING - LEFT HINDPAW	3/ 1	0/ 0	0/ 0	0/ 0	0/ 0	
-SCAB(S) - RIGHT FORELIMB	0/ 0	0/ 0	0/ 0	2/ 1	0/ 0	
-RAISED AREA - VENTRAL THORACIC (1.5 CM X 1.5 CM X 0.5 CM)	0/ 0	0/ 0	2/ 1	0/ 0	0/ 0	
-RED AND SWOLLEN TEET - RIGHT INGUINAL	1/ 1	0/ 0	0/ 0	0/ 0	0/ 0	
-SWOLLEN MAMMARIES - ABDOMINAL REGION	0/ 0	3/ 1	0/ 0	0/ 0	0/ 0	

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.  
 a EVIDENCE OF MATING/NO DELIVERY.  
 b NO EVIDENCE OF MATING/NO DELIVERY.

TABLE 23  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS  
 (OCCURRENCE/ANIMALS AFFECTED)

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

	GROUP:				
	1	2	3	4	5
	LEVEL (MG/KG/DAY):				
	0	1.0	2.5	5.0	10.0
<b>EYES</b>					
-DARK MATERIAL AROUND EYE(S)	0/ 0	39/ 3	36/ 2	2/ 1	0/ 0
-OCULAR LESION - LEFT EYE	0/ 0	27/ 1	0/ 0	0/ 0	0/ 0
-OCULAR DISCHARGE - RED	0/ 0	2/ 1	0/ 0	0/ 0	0/ 0
-LEFT EYE SMALL IN SIZE	0/ 0	32/ 1	0/ 0	0/ 0	0/ 0
-LEFT EYELID PARTIALLY CLOSED	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0
<b>NOSE/MOUTH</b>					
-SCAB(S) - MOUTH AREA	2/ 2	1/ 1	2/ 2	1/ 1	2/ 1
-REDDISH NASAL DISCHARGE	0/ 0	1/ 1	0/ 0	1/ 1	0/ 0
-MALALIGNMENT	0/ 0	1/ 1	29/ 1	7/ 1	9/ 1
-OPEN LESION - ROOF OF MOUTH	0/ 0	1/ 1	1/ 1	0/ 0	0/ 0
-INCISOR(S) - TRIMMED	27/ 27	32/ 27	33/ 28	27/ 27	29/ 28
-DARK MATERIAL AROUND NOSE	2/ 2	3/ 2	3/ 3	0/ 0	4/ 4
-BROKEN INCISOR(S)	0/ 0	2/ 1	14/ 2	1/ 1	10/ 3
-MESSING INCISOR(S)	0/ 0	22/ 1	2/ 1	0/ 0	0/ 0
<b>OTHER</b>					
-FOUND CAUGHT IN CAGE SIPPER HOLE	1/ 1	0/ 0	0/ 0	1/ 1	0/ 0
-CANNIBALIZED BY CAGE MATE	1/ 1	0/ 0	0/ 0	1/ 1	0/ 0
-UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.	4/ 4	2/ 2	1/ 1	0/ 0	3/ 2

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1	2	3	4	5
		0	1.0	2.5	5.0	10.0
1	MEAN	58	58	60	59	58
	S. D.	5.3	5.6	6.2	4.2	8.9
	N	27	27	28	27	28
2	MEAN	83	82	90*	87	84
	S. D.	9.8	8.7	8.5	8.8	9.5
	N	28	28	28	28	28
3	MEAN	135	134	147**	143	138
	S. D.	16.8	14.9	13.2	13.7	15.3
	N	28	28	28	28	28
4	MEAN	197	195	209*	205	200
	S. D.	19.1	19.9	16.1	14.8	20.1
	N	28	28	28	28	28
5	MEAN	256	254	272	266	260
	S. D.	22.6	26.2	22.9	18.0	25.6
	N	28	28	28	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05; \*\* = P<0.01



TABLE 24

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1 0	2 1.0	3 2.5	4 5.0	5 10.0
6	MEAN	315	312	331	324	319
	S. D.	26.5	32.4	28.2	19.6	29.9
	N	28	28	28	28	28
7	MEAN	363	358	378	371	367
	S. D.	32.0	36.6	31.8	23.5	34.4
	N	28	28	28	28	28
8	MEAN	401	392	415	407	403
	S. D.	36.4	38.9	36.7	26.6	39.8
	N	28	28	28	28	28
9	MEAN	434	425	449	439	437
	S. D.	39.2	45.0	36.9	30.1	43.5
	N	28	28	28	28	28
10	MEAN	460	451	474	466	463
	S. D.	43.5	53.5	41.9	34.4	47.2
	N	28	28	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK	11					
	MEAN	479	478	496	485	483
	S. D.	46.1	42.8	46.1	36.7	51.7
	N	28	27	28	28	28
	MEAN	498	497	513	503	499
	S. D.	50.5	49.2	49.3	40.6	55.1
	N	28	27	28	28	28
	MEAN	516	517	533	521	518
	S. D.	52.0	50.9	53.4	40.8	58.9
	N	28	27	28	28	28
	MEAN	525	525	542	527	525
	S. D.	52.4	50.8	55.1	41.8	60.4
	N	28	27	28	28	28
	MEAN	543	543	560	545	547
	S. D.	54.7	54.1	55.4	44.5	66.5
	N	28	27	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 16	MEAN	562	555	577	562	558
	S. D.	56.8	57.3	57.5	47.5	65.4
	N	28	26	28	28	28
WEEK 17	MEAN	574	569	591	573	569
	S. D.	58.8	59.2	58.9	49.6	68.1
	N	28	26	28	28	28
WEEK 18	MEAN	600	567	589	567	598
	S. D.	70.5	49.4	61.1	58.6	75.9
	N	16	15	16	16	16

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 2.4

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
		1	2	3	4	5
		0	1.0	2.5	5.0	10.0
1	MEAN	55	55	57	55	54
	S. D.	6.1	6.4	5.1	4.4	7.3
	N	27	27	28	27	28
2	MEAN	77	77	82	79	77
	S. D.	9.7	8.9	8.1	7.6	8.1
	N	27	28	28	27	28
3	MEAN	119	119	125	122	120
	S. D.	12.7	14.1	11.5	13.3	12.0
	N	27	28	28	27	28
4	MEAN	156	157	159	159	159
	S. D.	14.1	15.3	14.1	10.9	13.0
	N	27	28	28	27	28
5	MEAN	182	180	185	184	184
	S. D.	16.3	18.2	17.1	14.0	13.8
	N	27	28	28	27	28

----- NONE SIGNIFICANTLY DIFFERENT FROM CONTROL -----

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
		1	2	3	4	5
		0	1.0	2.5	5.0	10.0
6	MEAN	209	204	208	206	208
	S. D.	20.7	21.6	20.3	15.5	19.7
	N	27	28	28	27	28
7	MEAN	223	223	229	227	230
	S. D.	23.2	23.6	23.2	17.3	19.7
	N	27	28	28	27	28
8	MEAN	239	239	241	239	244
	S. D.	24.1	23.1	25.0	20.0	21.6
	N	27	28	28	27	28
9	MEAN	252	251	256	254	256
	S. D.	25.7	26.0	27.5	20.6	25.3
	N	27	28	28	27	28
10	MEAN	261	261	266	264	268
	S. D.	26.0	25.6	28.4	19.9	25.7
	N	27	28	27	27	28

----- NONE SIGNIFICANTLY DIFFERENT FROM CONTROL -----

TABLE 2.4

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
		1	2	3	4	5
		0	1.0	2.5	5.0	10.0
11	MEAN	271	274	278	279	280
	S. D.	27.7	29.4	29.3	22.6	29.2
	N	27	28	28	27	28
12	MEAN	285	289	293	295	298
	S. D.	30.1	31.8	30.0	26.4	33.0
	N	27	28	28	27	28
13	MEAN	295	293	300	299	305
	S. D.	32.7	30.4	34.2	26.4	34.1
	N	27	28	28	27	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

WEEK	GROUP: LEVEL (MG/KG/DAY)	M A L E				
		1	2	3	4	5
1 TO 2	0	26	24	30	28	26
	MEAN	6.9	7.9	6.0	7.9	8.1
	S. D.	27	27	28	27	28
	N					
2 TO 3	2.5	52	52	57*	56	54
	MEAN	7.7	8.0	5.5	6.3	7.6
	S. D.	28	28	28	28	28
	N					
3 TO 4	5.0	62	61	62	62	62
	MEAN	4.3	7.5	5.3	4.2	6.3
	S. D.	28	28	28	28	28
	N					
4 TO 5	10.0	60	59	63	61	60
	MEAN	5.9	7.8	8.1	6.5	6.8
	S. D.	28	28	28	28	28
	N					
5 TO 6	20.0	59	58	60	58	59
	MEAN	6.7	8.4	7.4	20.0	6.2
	S. D.	28	28	28	28	28
	N					

----- SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05 -----

TABLE 25

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1	2	3	4	5
6 TO 7	0	48	46	47	47	48
		8.1	8.7	8.3	23.8	7.3
		28	28	28	28	28
7 TO 8		38	34	37	35	36
		6.6	6.8	6.7	5.9	7.8
		28	28	28	28	28
8 TO 9		33	33	34	33	34
		6.1	8.1	5.2	5.7	6.5
		28	28	28	28	28
9 TO 10		26	26	25	27	26
		7.6	9.9	8.1	6.6	6.1
		28	28	28	28	28
10 TO 11		19	20	22	19	20
		7.9	5.7	8.7	6.6	7.3
		28	27	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



TABLE 25

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 11 TO 12	MEAN	19	19	17	18	16
	S. D.	7.9	8.7	7.4	8.8	10.3
	N	28	27	28	28	28
12 TO 13	MEAN	18	19	20	18	19
	S. D.	6.1	4.0	7.3	5.6	8.1
	N	28	27	28	28	28
13 TO 14	MEAN	9	9	10	6	7
	S. D.	5.5	7.4	8.2	13.4	8.2
	N	28	27	28	28	28
14 TO 15	MEAN	18	18	18	18	22
	S. D.	5.5	6.0	5.5	9.3	15.2
	N	28	27	28	28	28
15 TO 16	MEAN	19	13	17	16	11
	S. D.	5.7	9.2	6.9	20.5	15.3
	N	28	27	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 25

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
WEEK 16 TO 17	MEAN	11	14	14	11	11
	S. D.	6.4	8.4	6.8	22.0	8.1
	N	28	26	28	28	28
WEEK 17 TO 18	MEAN	13	9	11	14	16
	S. D.	5.3	5.2	3.2	8.3	7.0
	N	10	9	10	10	10

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

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

WEEK	GROUP: LEVEL (MG/KG/DAY)	F E M A L E				
		1	2	3	4	5
1 TO 2	0	22	22	25	25	22
MEAN		6.3	6.4	5.6	6.4	7.3
S. D.		27	27	28	27	28
N						
2 TO 3	0	42	42	43	42	43
MEAN		4.8	7.1	5.4	10.7	8.9
S. D.		27	28	28	27	28
N						
3 TO 4	0	37	38	35	37	39
MEAN		5.7	6.2	5.8	9.8	7.5
S. D.		27	28	28	27	28
N						
4 TO 5	0	26	23	25	25	25
MEAN		7.5	6.2	6.4	7.0	5.1
S. D.		27	28	28	27	28
N						
5 TO 6	0	27	24	24	21**	25
MEAN		7.8	5.9	6.6	4.5	8.0
S. D.		27	28	28	27	28
N						

----- SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01 -----

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

WEEK	GROUP: LEVEL (MG/KG/DAY)	1		2		3		4		5	
		MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.
6 TO 7	0	14	6.6	19*	6.2	21**	6.5	21**	4.7	21**	6.1
		27		28		28		27		28	28
7 TO 8		16	6.5	16	5.7	13	8.5	13	5.4	14	4.4
		27		28		28		27		28	28
8 TO 9		13	7.4	13	6.8	15	6.8	14	4.9	13	7.2
		27		28		28		27		28	28
9 TO 10		9	8.4	9	5.2	10	4.7	10	4.0	11	7.7
		27		28		27		27		28	28
10 TO 11		10	8.5	13	7.9	12	8.5	15	6.8	12	8.4
		27		28		27		27		28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05; \*\* = P<0.01

TABLE 25

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	1		2		3		4		5	
		MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.
11 TO 12	0	14	11.6	15	9.4	16	8.5	16	12.2	17	8.8
		27	27	28	28	28	28	27	27	28	28
12 TO 13	10	10	7.4	5	11.6	7	9.5	4	13.5	8	10.3
		27	27	28	28	28	28	27	27	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 GESTATION BODY WEIGHT DATA (GRAMS)

TABLE 26

DAY	GROUP: LEVEL (MG/RG/DAY)	1		2		3		4		5	
		0	24	1.0	25	2.5	25	5.0	21	10.0	23
DAY 0	MEAN	290		298		301		297		295	
	S. D.	22.0		22.3		32.9		27.1		29.7	
	N	24		25		25		21		23	
DAY 7	MEAN	314		325		325		322		320	
	S. D.	21.7		21.8		33.9		26.3		35.6	
	N	24		25		25		21		23	
DAY 14	MEAN	342		352		353		351		345	
	S. D.	23.9		23.4		38.4		29.4		37.7	
	N	24		25		25		21		23	
DAY 20	MEAN	405		423		417		422		408	
	S. D.	25.5		29.2		50.4		31.8		50.6	
	N	24		25		25		21		23	

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 27

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
DAY 0- 7 MEAN	24	27	24	25	25
S. D.	7.3	7.2	7.8	10.2	9.3
N	24	25	25	21	23
DAY 7- 14 MEAN	28	27	28	29	25
S. D.	5.0	5.3	7.5	7.7	7.1
N	24	25	25	21	23
DAY 14- 20 MEAN	63	70	64	71	63
S. D.	11.6	15.9	18.1	11.0	19.9
N	24	25	25	21	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 LACTATION BODY WEIGHT DATA (GRAMS)

TABLE 28

DAY	GROUP: LEVEL (MG/KG/DAY)	1		2		3		4		5	
		0	1.0	1.0	2.0	2.5	2.5	5.0	5.0	10.0	10.0
DAY 1	MEAN	311	318	318	322	322	322	323	323	313	313
	S.D.	23.7	31.1	31.1	36.4	36.4	36.4	27.2	27.2	31.8	31.8
	N	24	26	26	24	24	24	23	23	24	24
DAY 4	MEAN	319	326	326	333	333	333	335	335	325	325
	S.D.	20.2	32.8	32.8	35.1	35.1	35.1	26.4	26.4	25.8	25.8
	N	24	26	26	24	24	23	23	23	23	23
DAY 7	MEAN	326	331	331	341	341	341	341	341	334	334
	S.D.	19.1	32.9	32.9	35.0	35.0	35.0	27.0	27.0	27.6	27.6
	N	24	26	26	24	24	23	23	23	23	23
DAY 14	MEAN	343	354	354	355	355	355	359	359	355	355
	S.D.	19.0	34.8	34.8	32.4	32.4	32.4	27.2	27.2	29.8	29.8
	N	24	26	26	24	24	23	23	23	23	23
DAY 21	MEAN	344	343	343	351	351	351	349	349	348	348
	S.D.	21.9	32.8	32.8	29.4	29.4	29.4	27.7	27.7	27.7	27.7
	N	24	26	26	24	24	23	23	23	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



TABLE 29

GROUP:	1	2	3	4	5
LEVEL (MG/RG/DAY):	0	1.0	2.5	5.0	10.0
DAY 1- 4 MEAN	8	8	11	11	10
S.D.	8.5	9.5	9.2	8.1	11.2
N	24	26	24	23	23
DAY 4- 7 MEAN	6	5	7	6	10
S.D.	8.1	7.0	6.8	6.2	7.4
N	24	26	24	23	23
DAY 7- 14 MEAN	18	23	14	18	21
S.D.	11.1	8.6	9.3	10.6	7.4
N	24	26	24	23	23
DAY 14- 21 MEAN	1	-11	-4	-11	-7
S.D.	10.2	13.3	10.5	15.2	9.3
N	24	26	24	23	23

SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01

		M A L E				
GROUP:		1	2	3	4	5
WEEK	LEVEL (MG/KG/DAY)	0	1.0	2.5	5.0	10.0
2 TO 3	MEAN	19	18	19	20	19
	S. D.	2.2	2.3	1.7	1.3	1.7
	N	8	13	20	14	13
3 TO 4	MEAN	23	23	24	24	24
	S. D.	2.1	2.4	2.0	1.3	2.5
	N	28	28	28	28	28
4 TO 5	MEAN	26	27	28	28*	27
	S. D.	2.0	2.7	2.2	1.5	2.8
	N	28	28	28	28	28
5 TO 6	MEAN	29	29	30	30	30
	S. D.	2.6	2.9	2.5	1.6	2.8
	N	28	28	28	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05  
 NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.

TABLE 30  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

WEEK	GROUP: LEVEL (MG/KG/DAY)	M A L E				
		1	2	3	4	5
6 TO 7	0	30	30	30	30	30
		2.7	2.9	2.5	1.9	2.7
		28	28	28	28	28
7 TO 8	30	30	29	30	30	30
		2.7	3.0	2.8	2.0	2.6
		28	28	28	28	28
8 TO 9	30	30	29	30	30	30
		2.6	2.9	2.4	1.9	2.9
		28	28	28	27	28
9 TO 10	31	31	31	30	30	30
		2.4	2.8	2.8	2.2	3.0
		28	26	28	27	27
10 TO 11	30	30	30	30	29	29
		3.7	3.0	3.2	2.1	3.2
		27	27	28	28	27

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

WEEK	GROUP: LEVEL (MG/KG/DAY):	M A L E				
		1	2	3	4	5
11 TO 12	0	30	30	30	29	29
MEAN		2.6	2.8	2.8	3.0	3.2
S. D.		28	27	28	28	28
N						
12 TO 13	0	30	29	29	29	29
MEAN		2.7	2.7	2.7	2.2	3.1
S. D.		28	27	28	27	28
N						
14 TO 15	0	30	29	29	29	30
MEAN		2.6	2.8	2.5	2.6	3.2
S. D.		25	23	27	21	26
N						
15 TO 16	0	29	29	29	29	29
MEAN		2.7	2.7	2.3	2.3	3.0
S. D.		28	26	28	27	27
N						
16 TO 17	0	29	29	29	28	28
MEAN		2.6	3.8	2.3	2.2	2.8
S. D.		27	26	28	27	28
N						

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13-14).

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

WEEK	2 TO 3	GROUP: LEVEL (MG/KG/DAY):	1		2		3		4		5	
			MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.	MEAN	S. D.
		0	17	1.4	17	2.1	17	1.5	16	2.0	17	2.1
			9		13		20		16		14	
			19	1.5	20	2.0	19	2.1	19	1.3	20	1.8
			27		28		28		27		28	
			20	1.5	20	1.8	20	2.1	20	1.6	20	1.8
			27		28		28		27		28	
			21	1.9	21	2.2	22	2.3	20	1.7	21	1.9
			27		28		28		27		28	

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	1		2		3		4		5	
		0	21	1.0	2.1	2.5	2.1	5.0	2.1	5.0	10.0
6 TO 7	MEAN	21	21								
	S. D.	1.9	2.4								
	N	27	28								
7 TO 8	MEAN	20	21								
	S. D.	1.7	2.3								
	N	27	28								
8 TO 9	MEAN	21	20								
	S. D.	2.0	2.3								
	N	27	25								
9 TO 10	MEAN	21	21								
	S. D.	1.9	3.0								
	N	26	28								
10 TO 11	MEAN	21	21								
	S. D.	1.8	3.4								
	N	27	28								

-----  
 NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 -----

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 30  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

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

WEEK	GROUP: LEVEL (MG/KG/DAY):	1		2		3		4		5	
		0	22	1.0	21	2.5	23	5.0	23	10.0	5
11 TO 12	MEAN	2.2	27	4.5	27	2.5	27	2.4	27	2.6	27
	S. D.										
	N										
12 TO 13	MEAN	2.0	27	2.7	28	3.2	28	2.5	27	2.5	28
	S. D.										
	N										

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 31

GROUP:	1	2	3	4	5
LEVEL (MG/RG/DAY):	0	1.0	2.5	5.0	10.0
DAY 0- 7	23	24	24	24	23
MEAN		2.3	2.7	2.5	2.7
S. D.	1.6	2.5	2.5	2.1	2.3
N	24	25	25	21	23
DAY 7- 14	24	25	25	25	24
MEAN		2.2	3.3	2.4	2.6
S. D.	2.8	2.5	2.4	2.1	2.3
N	24	25	24	21	23
DAY 14- 20	24	25	25	25	24
MEAN		2.0	3.1	2.4	3.1
S. D.	1.5	2.5	2.4	2.1	2.2
N	24	25	24	21	22

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 32  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 ESTROUS CYCLICITY DATA

PAGE 1

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

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
MEAN CYCLE LENGTH (DAYS)	5.22	5.66	5.22	5.47	6.04
S.D.	2.019	1.666	1.385	1.674	1.656
NO. OF FEMALES EVALUATED	27	28	28	27	28
NO. (%) CYCLING	18 (66.7)	24 (85.7)	17 (60.7)	16 (59.3)	17 (60.7)

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

NOTE: CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE), OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR). THE NO. (%) CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 33  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 COPULATION, FERTILITY, PRECOITAL INTERVAL  
 AND GESTATION LENGTH DATA

PAGE 1

GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
COPULATION INDEX						
NO. OF ANIMALS PAIRED	25 / 27	26 / 28	27 / 28	24 / 27	27 / 28	27 / 28
PERCENT	92.6	92.9	96.4	88.9	96.4	96.4
FERTILITY INDEX						
NO. OF ANIMALS PAIRED	24 / 25	26 / 26	25 / 27	22 / 24	24 / 27	24 / 27
PERCENT	96.0	100.0	92.6	91.7	88.9	88.9
PRECOITAL INTERVAL (DAYS)						
MEAN	2.8	2.8	2.3	3.1	2.4	2.4
S.D.	2.6	2.2	1.0	3.0	1.0	1.0
N	25	25	27	23	26	26
GESTATION LENGTH (DAYS)						
MEAN	22.1	22.0	22.1	22.0	22.1	22.1
S.D.	0.4	0.5	0.4	0.2	0.5	0.5
N	24	25	25	21	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: COPULATION INDEX = NO. OF ANIMALS PAIRED WITH SUCCESSFUL COPULATION / NO. OF MATED ANIMALS X 100.  
 FERTILITY INDEX = NO. OF GRAVID FEMALES / NO. OF ANIMALS PAIRED WITH SUCCESSFUL COPULATION X 100.

TABLE 34

	FOUND DEAD				
	1	2	3	4	5
GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS FOUND DEAD	0	2	0	0	0
EXTERNAL APPEARANCE					
- HAIRCOAT - DARK MATERIAL	0	1	0	0	0
DUODENUM					
- CONTENT ABNORMAL	0	1	0	0	0
- MUCOSA REDDENED	0	1	0	0	0
HEART					
- PERICARDIUM - THICKENED	0	1	0	0	0
JEJUNUM					
- CONTENT ABNORMAL	0	1	0	0	0
- MUCOSA REDDENED	0	1	0	0	0
MEDIASTINAL LYMPH NODE					
- REDDENED	0	1	0	0	0
- ENLARGED	0	1	0	0	0
LUNG/BRONCHI					
- ADHESION	0	1	0	0	0
THORACIC CAVITY					
- FLUID CONTENTS	0	1	0	0	0
ABDOMINAL CAVITY					
- ADHESION	0	1	0	0	0

TABLE 34

GROUP: LEVEL (MG/KG/DAY):	FOUND DEAD				
	1	2	3	4	5
0	1.0	2.5	5.0	10.0	
28	28	28	28	28	28
0	2	0	0	0	0
0	1	0	0	0	0
0	1	0	0	0	0
0	1	0	0	0	0
0	1	0	0	0	0

NUMBER OF ANIMALS IN DOSE GROUP  
 NUMBER OF ANIMALS FOUND DEAD

SKIN  
 -SUBCUTANEOUS NODULE

STOMACH  
 -CONTENT ABNORMAL  
 -MUCOSA REDDENED

THYMUS GLAND  
 -DARK RED

GROUP: LEVEL (MG/KG/DAY):	FOUND DEAD - ACCIDENTAL INJURY				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS FOUND DEAD	1	0	0	1	0
NO REMARKABLE FINDINGS	0	0	0	1	0
SUBCUTANEOUS TISSUE -HEMORRHAGE	1	0	0	0	0

TABLE 34

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	28	26	28	28	28
NO REMARKABLE FINDINGS	12	15	18	15	18
EXTERNAL APPEARANCE					
-HAIRCOAT - DARK MATERIAL	0	1	1	2	2
-HAIRCOAT - HAIRLOSS	6	5	0	6	1
-PINNA(E) - THICKENED	0	0	0	0	1
DIAPHRAGM					
-HERNIA	0	0	0	1	0
-THIN AREA(S)	1	0	0	0	1
EPIDIDYMIDES					
-SMALL	0	0	1	0	0
EYES					
-OPTIC NERVE - HYPOPLASIA	0	0	0	1	0
KIDNEYS					
-DILATED PELVIS	5	3	5	1	2
-PITTED	3	0	0	0	0
-CALCULI	1	0	0	0	0
LIVER					
-TAN AREA(S)	2	1	2	0	0

TABLE 34

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	28	26	28	28	28
LUNG/BRONCHI					
- DARK RED AREA(S)	0	0	0	0	1
- FOCI	0	0	0	0	1
ORAL CAVITY					
- INCISOR(S) - MALALIGNED	0	2	2	2	2
- INCISOR(S) - ABSENT	0	0	0	0	1
ORAL CAVITY					
- INCISOR(S) - BROKEN	0	0	0	1	0
STOMACH					
- CONTENT ABNORMAL	0	0	0	0	1
TESTES					
- SMALL	0	0	1	0	0
- TANNISH-PURPLE	0	0	1	0	0
THYMUS GLAND					
- DARK RED	2	1	0	0	0
- FOCI	2	4	1	1	0
URETERS					
- DISTENDED	1	0	0	0	0
URINARY BLADDER					
- CONTENT ABNORMAL	2	0	0	0	0

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	24	26	24	23	23
EXTERNAL APPEARANCE					
-HAIRCOAT - HAI RLOSS	5	4	3	3	3
-HAIRCOAT - DARK MATERIAL	0	0	1	0	0
-PINNA(E) - THICKENED	0	0	1	1	1
-SWOLLEN TEAT(S)	1	0	0	0	0
EYES					
- LESION	0	1	0	0	0
JEJUNUM					
- REDDENED	1	0	0	0	0
KIDNEYS					
- DILATED PELVIS	0	0	0	0	1
- DARK RED AREA(S)	0	0	0	1	0
LIVER					
- PALE AREA(S)	1	0	0	0	0
- FOCI	1	0	0	0	0
- TAN AREA(S)	0	0	0	0	1
MANDIBULAR LYMPH NODE					
- REDDENED	1	0	0	0	0
LUNG/BRONCHI					
- DARK RED AREA(S)	0	1	0	0	0
- FOCI	0	1	1	0	0



TABLE 34

SCHEDULED EUTHANASIA

	F E M A L E				
	1	2	3	4	5
GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	24	26	24	23	23
ORAL CAVITY					
-INCISOR(S) ABSENT	0	1	0	0	0
-INCISOR(S) - MALALIGNMENT	0	0	1	0	0
OVARIES					
- CYST(S)	1	0	0	0	0
SKIN					
-NODULE(S)	1	0	0	0	0
SPLEEN					
- GREY AREA(S)	1	0	0	0	0
URINARY BLADDER					
-CONTENT ABNORMAL	0	0	1	0	0
UTERUS					
-IMPLANTATION SCARS PRESENT	24	26	24	23	23
OVIDUCTS					
-CYST(S)	1	0	0	0	0

TABLE 34

SCHEDULED EUTHANASIA - TOTAL LITTER LOSS

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED WITH TOTAL LITTER LOSS	0	0	1	0	1
EXTERNAL APPEARANCE					
-HAIRCOAT - HAIRLOSS	0	0	1	0	0
-SKIN - SCABBING	0	0	0	0	1
KIDNEYS					
-PITTED	0	0	0	0	1
UTERUS					
-IMPLANTATION SCARS PRESENT	0	0	1	0	1
-RETAINED PUP	0	0	0	0	1

TABLE 34

SCHEDULED EUTHANASIA - GESTATION DAY 25 a

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED ON GESTATION DAY 25	1	0	2	2	3
EXTERNAL APPEARANCE					
-HAIRCOAT - HAIRLOSS	0	0	0	1	0
KIDNEYS					
-DILATED PELVIS	0	0	0	0	1
UTERUS					
- NONGRAVID -- AMMONIUM SULFIDE NEGATIVE	1	0	2	2	3

a EVIDENCE OF MATING/NO DELIVERY.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL GROSS NECROPSY OBSERVATIONS

PAGE 10

TABLE 34

SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25 a

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS IN DOSE GROUP	28	28	28	28	28
NUMBER OF ANIMALS EXAMINED ON POSTBREEDING PERIOD DAY 25	2	2	1	2	1
UTERUS					
- NONGRAVID -- AMMONIUM SULFIDE NEGATIVE	2	2	1	2	1

a NO EVIDENCE OF MATING/NO DELIVERY.

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
<b>IMPLANTATION SCAR COUNT</b>					
MEAN	14.6	16.0	15.0	15.2	14.7
S. D.	2.14	2.80	3.96	1.75	4.41
N	24	26	25	23	24
<b>NUMBER OF LIVE PUPS (DAY 0)</b>					
MEAN	13.8	14.8	13.6	13.9	13.5
S. D.	2.09	3.33	3.72	1.83	4.37
N	24	26	25	23	24
<b>POST-IMPLANTATION LOSS</b>					
MEAN	0.9	1.9	1.3	1.3	1.2
S. D.	0.90	1.13	1.35	1.06	1.35
N	24	26	25	23	24

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL  
 NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS PAGE 1  
 CLIENT: NIPERA, INC. SUMMARY OF F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS) WEEK 18

TABLE 36

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
BRAIN	MEAN	2.24	2.18	2.22	2.23	2.24
	S. D.	0.112	0.075	0.084	0.084	0.076
	N	28	26	28	28	28
PITUITARY	MEAN	0.0139	0.0124*	0.0134	0.0142	0.0131
	S. D.	0.00280	0.00170	0.00234	0.00180	0.00145
	N	28	26	28	27	28
SPLEEN	MEAN	0.84	0.87	0.86	0.86	0.89
	S. D.	0.105	0.113	0.139	0.156	0.109
	N	28	26	28	28	28
KIDNEYS	MEAN	4.24	4.18	4.28	4.16	4.19
	S. D.	0.383	0.462	0.410	0.428	0.553
	N	28	26	28	28	28
ADRENAL GLANDS	MEAN	0.0602	0.0607	0.0658	0.0663	0.0665
	S. D.	0.00779	0.00771	0.01234	0.00894	0.01133
	N	28	26	28	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 36  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

PAGE 2  
 WEEK 18

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
SEMINAL VESICLE						
MEAN	1.76	1.75	1.78	1.82	1.75	
S. D.	0.313	0.341	0.333	0.259	0.315	
N	28	26	28	28	28	
PROSTATE						
MEAN	1.22	1.10	1.16	1.19	1.08	
S. D.	0.248	0.198	0.297	0.203	0.256	
N	28	26	28	28	28	
EPIDIDYMIDES						
MEAN	1.41	1.35	1.36	1.33	1.34	
S. D.	0.109	0.111	0.141	0.100	0.131	
N	28	26	28	28	28	
LEFT TESTIS						
MEAN	1.87	1.80	1.88	1.84	1.84	
S. D.	0.154	0.107	0.290	0.137	0.180	
N	28	26	28	28	28	

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 36  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

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 WEEK 18

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
<b>RIGHT TESTIS</b>						
MEAN		1.86	1.81	1.82	1.85	1.82
S. D.		0.150	0.118	0.220	0.145	0.198
N		28	26	28	28	27
<b>TESTES</b>						
MEAN		3.71	3.59	3.68	3.68	3.67
S. D.		0.292	0.236	0.322	0.281	0.378
N		28	26	28	28	28
<b>LIVER</b>						
MEAN		20.48	19.45	20.48	18.97	18.83
S. D.		2.904	3.388	2.561	2.547	2.981
N		28	26	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL



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

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
<b>BRAIN</b>					
MEAN	2.05	2.01	2.01	2.05	2.04
S. D.	0.097	0.087	0.077	0.077	0.078
N	24	26	24	23	23
<b>OVARIES</b>					
MEAN	0.1001	0.1037	0.1056	0.1124	0.1118
S. D.	0.01392	0.02537	0.01320	0.01600	0.01696
N	24	26	24	23	23
<b>PITUITARY</b>					
MEAN	0.0164	0.0155	0.0167	0.0160	0.0153
S. D.	0.00214	0.00256	0.00313	0.00190	0.00192
N	24	26	24	23	23
<b>SPLEEN</b>					
MEAN	0.60	0.64	0.61	0.63	0.64
S. D.	0.077	0.088	0.082	0.094	0.061
N	24	26	24	23	23
<b>KIDNEYS</b>					
MEAN	2.76	2.78	2.71	2.74	2.81
S. D.	0.227	0.309	0.223	0.189	0.244
N	24	26	24	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 36  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

PAGE 5  
 WEEK 18

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

	GROUP:				
	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
UTERUS					
MEAN	0.46	0.40	0.42	0.45	0.44
S. D.	0.108	0.082	0.070	0.151	0.102
N	24	26	24	23	23
ADRENAL GLANDS					
MEAN	0.0763	0.0815	0.0806	0.0824	0.0834
S. D.	0.01054	0.01088	0.00776	0.00773	0.01120
N	24	26	24	23	23
LIVER					
MEAN	16.89	16.10	16.27	16.49	16.12
S. D.	1.347	1.844	1.355	2.026	2.065
N	24	26	24	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 37  
 SUMMARY OF F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
BRAIN	MEAN	0.385	0.380	0.370	0.384	0.388
	S. D.	0.0380	0.0389	0.0316	0.0345	0.0402
	N	28	26	28	28	28
PITUITARY	MEAN	0.002	0.002	0.002	0.002	0.002
	S. D.	0.0004	0.0004	0.0004	0.0004	0.0003
	N	28	26	28	27	28
SPLEEN	MEAN	0.144	0.151	0.143	0.147	0.152
	S. D.	0.0167	0.0186	0.0182	0.0242	0.0147
	N	28	26	28	28	28
KIDNEYS	MEAN	0.727	0.724	0.709	0.712	0.718
	S. D.	0.0559	0.0953	0.0373	0.0484	0.0521
	N	28	26	28	28	28
ADRENAL GLANDS	MEAN	0.0104	0.0106	0.0109	0.0115*	0.0115*
	S. D.	0.00122	0.00158	0.00168	0.00179	0.00171
	N	28	26	28	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05

TABLE 37  
 SUMMARY OF F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

	M A L E					
	GROUP: LEVEL (MG/KG/DAY):	1 0	2 1.0	3 2.5	4 5.0	5 10.0
SEMINAL VESICLE						
MEAN		0.303	0.303	0.297	0.313	0.301
S. D.		0.0577	0.0608	0.0595	0.0490	0.0483
N		28	26	28	28	28
PROSTATE						
MEAN		0.211	0.191	0.191	0.205	0.186
S. D.		0.0508	0.0384	0.0420	0.0360	0.0427
N		28	26	28	28	28
EPIDIDYMIDES						
MEAN		0.242	0.233	0.227	0.230	0.232
S. D.		0.0282	0.0217	0.0305	0.0256	0.0232
N		28	26	28	28	28
LEFT TESTIS						
MEAN		0.322	0.313	0.313	0.318	0.317
S. D.		0.0382	0.0384	0.0464	0.0358	0.0342
N		28	26	28	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

PAGE 3  
 WEEK 18

TABLE 37

		M A L E				
GROUP:		1	2	3	4	5
LEVEL (MG/KG/DAY):		0	1.0	2.5	5.0	10.0
<b>RIGHT TESTIS</b>						
MEAN		0.320	0.315	0.304	0.318	0.316
S. D.		0.0370	0.0360	0.0474	0.0381	0.0364
N		28	26	28	28	27
<b>TESTES</b>						
MEAN		0.639	0.624	0.615	0.634	0.632
S. D.		0.0735	0.0718	0.0725	0.0736	0.0699
N		28	26	28	28	28
<b>LIVER</b>						
MEAN		3.494	3.330	3.391	3.239**	3.217**
S. D.		0.3075	0.3566	0.2396	0.2476	0.2361
N		28	26	28	28	28

SIGNIFICANTLY DIFFERENT FROM CONTROL: \*\* = P<0.01

TABLE 37  
 SUMMARY OF F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

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

	GROUP:				
	1	2	3	4	5
	LEVEL (MG/KG/DAY):				
	0	1.0	2.5	5.0	10.0
<b>BRAIN</b>					
MEAN	0.598	0.590	0.575	0.591	0.590
S. D.	0.0333	0.0510	0.0471	0.0494	0.0449
N	24	26	24	23	23
<b>OVARIES</b>					
MEAN	0.029	0.030	0.030	0.032	0.032
S. D.	0.0043	0.0074	0.0036	0.0038	0.0045
N	24	26	24	23	23
<b>PITUITARY</b>					
MEAN	0.005	0.005	0.005	0.005	0.004
S. D.	0.0006	0.0006	0.0007	0.0006	0.0005
N	24	26	24	23	23
<b>SPLEEN</b>					
MEAN	0.174	0.187	0.173	0.180	0.183
S. D.	0.0214	0.0218	0.0181	0.0264	0.0184
N	24	26	24	23	23
<b>KIDNEYS</b>					
MEAN	0.801	0.810	0.773	0.790	0.810
S. D.	0.0412	0.0650	0.0562	0.0631	0.0638
N	24	26	24	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 37  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

PAGE 5  
 WEEK 18

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

	GROUP:		2		3		4		5	
	LEVEL (MG/KG/DAY):		1.0		2.5		5.0		10.0	
UTERUS	MEAN	0.133	0.117	0.120	0.131	0.126				
	S. D.	0.0314	0.0212	0.0182	0.0474	0.0304				
	N	24	26	24	23	23				
ADRENAL GLANDS	MEAN	0.022	0.024	0.023	0.024	0.024				
	S. D.	0.0028	0.0033	0.0020	0.0027	0.0029				
	N	24	26	24	23	23				
LIVER	MEAN	4.904	4.690	4.643*	4.726	4.619*				
	S. D.	0.2421	0.3098	0.2604	0.4210	0.3429				
	N	24	26	24	23	23				

SIGNIFICANTLY DIFFERENT FROM CONTROL: \* = P<0.05

TABLE 38

SCHEDULED EUTHANASIA

GROUP:	1	5
LEVEL (MG/KG/DAY):	0	10.0
<b>% MOTILITY</b>		
MEAN	87	89
S. D.	12.8	4.4
N	28	28
<b>CONCENTRATION (M/ML)</b>		
MEAN	4.4	4.0
S. D.	1.16	0.90
N	28	28
<b>TOTAL SPERM (M/G)</b>		
MEAN	949.4	872.7
S. D.	197.10	176.06
N	28	28
<b>% NORMAL SPERM (MORPHOLOGY)</b>		
MEAN	82.2	86.1
S. D.	15.05	4.56
N	28	28

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMS.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

TABLE 39  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F2 PUP VIABILITY

	LACTATION DAY 0				
	1	2	3	4	5
GROUP:	0	1.0	2.5	5.0	10.0
LEVEL (MG/KG/DAY):	10	9	14	5	11
NO. DEAD					
NO. LIVE	330	385	341	320	323
NO. LITTERS WITH LIVE OFFSPRING	24	26	24	23	24
MEAN LIVE LITTER SIZE	13.8	14.8	14.2	13.9	13.5
SEX RATIO (MALE: FEMALE)	158: 172	175: 210	153: 188	159: 161	175: 148

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

NOTE: NO. DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

TABLE 39

	DURING LACTATION				
	1	2	3	4	5
GROUP: LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
DAY 1 NO. ALIVE/NO. PUPS PERCENT	326/330 98.8	384/385 99.7	339/341 99.4	317/320 99.1	320/323 99.1
DAY 4 NO. ALIVE/NO. PUPS BEFORE SELECTION	323/330 97.9	382/385 99.2	333/341 97.7	317/320 99.1	315/323 97.5
DAY 4 NO. ALIVE/NO. PUPS AFTER SELECTION	192/192 100.0	201/201 100.0	190/190 100.0	184/184 100.0	179/179 100.0
DAY 7 NO. ALIVE/NO. PUPS PERCENT	192/192 100.0	200/201 99.5	190/190 100.0	184/184 100.0	178/179 99.4
DAY 14 NO. ALIVE/NO. PUPS PERCENT	191/192 99.5	199/201 99.0	190/190 100.0	184/184 100.0	178/179 99.4
DAY 21 NO. ALIVE/NO. PUPS PERCENT	191/192 99.5	199/201 99.0	190/190 100.0	184/184 100.0	178/179 99.4

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 40  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F2 PUP OBSERVATIONS DURING LACTATION  
 (OCCURRENCE/ANIMALS AFFECTED)

	GROUP: 1		2		3		4		5	
	LEVEL (MG/KG/DAY):		1.0		2.5		5.0		10.0	
NORMAL	1193/328	1339/383	1225/340	1156/319	1133/320					
-NO REMARKABLE OBSERVATIONS										
DEAD										
-FOUND DEAD	13/ 13	11/ 11	16/ 16	6/ 6	17/ 17					
-CANNIBALIZED	2/ 2	2/ 2	2/ 2	0/ 0	0/ 0					
-MISSING - PRESUMED CANNIBALIZED	3/ 3	1/ 1	3/ 3	2/ 2	3/ 3					
-UNSCCHEDULED EUTHANASIA - CANNIBALIZED	0/ 0	0/ 0	1/ 1	0/ 0	0/ 0					
-CULLED ON SCHEDULED DAY	131/131	181/181	143/143	133/133	136/136					
ACTIVITY										
-GASPING	0/ 0	0/ 0	0/ 0	1/ 1	1/ 1					
-LABORED RESPIRATION	0/ 0	0/ 0	0/ 0	0/ 0	1/ 1					
BODY										
-HAIRLOSS	8/ 8	0/ 0	0/ 0	9/ 9	18/ 14					
-OPEN LESION(S)	0/ 0	2/ 2	0/ 0	1/ 1	0/ 0					
-PUP COOL TO THE TOUCH	0/ 0	1/ 1	1/ 1	0/ 0	2/ 2					
-PUP PALE IN COLOR	1/ 1	1/ 1	0/ 0	1/ 1	0/ 0					
-PUP PURPLE IN COLOR	0/ 0	0/ 0	0/ 0	0/ 0	2/ 2					
-PUP SMALL IN SIZE	0/ 0	3/ 3	1/ 1	0/ 0	0/ 0					
-SCAB(S)	11/ 9	8/ 8	0/ 0	7/ 7	1/ 1					
-SUBCUTANEOUS HEMORRHAGE(S)	15/ 15	22/ 22	12/ 12	15/ 15	18/ 18					
-SWELLING	0/ 0	1/ 1	0/ 0	0/ 0	0/ 0					
OTHER										
-PORTION OF TAIL ABSENT	0/ 0	2/ 1	5/ 1	0/ 0	0/ 0					

NOTE: DATA REFLECT THE TOTAL OCCURRENCE OF EACH CLINICAL FINDING OVER THE NUMBER OF ANIMALS EXHIBITING THE FINDING.

TABLE 41  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 SUMMARY OF F2 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP:	1	2	3	4	5
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
DAY 1 MEAN	7.3	7.0	7.2	7.5	7.3
S.D.	0.64	0.65	0.64	0.27	0.81
N	24	26	24	23	23
DAY 4 MEAN BEFORE SELECTION	10.0	9.8	10.4	10.8	10.4
S.D.		26	24	23	23
N	24				
DAY 4 MEAN AFTER SELECTION	10.1	9.9	10.4	10.9	10.3
S.D.		26	24	23	23
N	24				
DAY 7 MEAN	16.2	15.8	16.6	17.3	16.8
S.D.	1.50	1.94	1.76	1.05	2.38
N	24	26	24	23	23
DAY 14 MEAN	33.3	33.6	34.8	35.1	34.4
S.D.	2.06	4.57	2.86	2.21	3.66
N	24	26	24	23	23
DAY 21 MEAN	52.1	53.0	54.0	55.1	53.8
S.D.	3.38	7.99	4.29	2.66	5.13
N	24	26	24	23	23

NONE SIGNIFICANTLY DIFFERENT FROM CONTROL

TABLE 42

	FOUND DEAD						
	1	2	3	4	5	6	7
GROUP:	1	2	3	4	5	6	7
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0		
NUMBER OF ANIMALS FOUND DEAD	8	5	6	5	7		
NO REMARKABLE FINDINGS	0	1	0	1	0		
EXTERNAL APPEARANCE	0	0	0	1	0		
-EDEMA							
EYES	1	0	0	0	0		
-HEMORRHAGIC RING							
HEART	0	0	0	1	0		
-BULBOUS AORTIC ARCH							
KIDNEYS	0	0	0	0	1		
-RENAL PAPILLA(E) INCOMPLETELY DEVELOPED							
LUNGS	6	2	4	4	5		
-ATELECTASIS							
STOMACH	6	3	5	3	4		
-MILK NOT PRESENT	1	1	0	0	1		
-MILK PRESENT							
TRACHEA	1	0	0	0	0		
-CONTENT ABNORMAL							
URETERS	1	0	0	1	2		
-DISTENDED							

TABLE 42

GROUP: LEVEL (MG/KG/DAY):	FOUND DEAD						
	M	A	L	E			
1	2	3	4	5	6	7	
0	1.0	2.5	5.0	10.0			
8	5	6	5	7			
NUMBER OF ANIMALS FOUND DEAD							
DIAPHRAGM							
-HERNIA							
MAJOR VESSELS							
-PATENT DUCTUS ARTERIOSUS							

TABLE 42

FOUND DEAD OR UNSCHEDULED EUTHANASIA

	F E M A L E				
	1	2	3	4	5
GROUP:	0	1.0	2.5	5.0	10.0
LEVEL (MG/KG/DAY):	5	6	11	1	10
NUMBER OF ANIMALS FOUND DEAD OR EUTHANIZED	1	2	1	0	2
NO REMARKABLE FINDINGS	0	0	1	0	0
EXTERNAL APPEARANCE	0	0	1	0	0
-MISSHAPEN	0	0	1	0	0
-CANNIBALIZED	0	0	0	0	0
EYES	0	0	0	0	1
-MICROPHthalmia	0	0	0	0	1
LIVER	0	0	2	0	1
-PALE	0	0	2	0	1
LUNGS	3	3	5	1	5
-ATELECTASIS	0	0	0	0	1
-DARK RED	3	4	7	1	5
STOMACH	1	0	3	0	2
-MILK NOT PRESENT	0	0	0	0	1
-MILK PRESENT	0	0	0	0	1
TRACHEA	0	0	0	0	1
-CONTENT ABNORMAL	0	1	2	0	1
URETERS	0	0	0	0	0
-DISTENDED	0	0	0	0	0
HEAD	0	0	1	0	0
-EDEMA	0	0	1	0	0

	SCHEDULED EUTHANASIA				
	1	2	3	4	5
GROUP:	0	102	96	91	96
LEVEL (MG/KG/DAY):	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	96	102	96	91	96
NO REMARKABLE FINDINGS	96	100	89	90	95
EXTERNAL APPEARANCE					
-TAIL ABSENT	0	0	1	0	0
KIDNEYS					
-DILATED PELVIS	0	0	1	1	1
LIVER					
-MALFORMED	0	1	0	0	0
LUNGS					
-CONSOLIDATED	0	0	3	0	0
TRACHEA					
-CONTENT ABNORMAL	0	0	5	0	0
URINARY BLADDER					
-CONTENT ABNORMAL	0	1	0	0	0



TABLE 42

SCHEDULED EUTHANASIA

GROUP: LEVEL (MG/KG/DAY):	F E M A L E				
	1	2	3	4	5
	0	1.0	2.5	5.0	10.0
NUMBER OF ANIMALS EXAMINED AT SCHEDULED EUTHANASIA	94	97	94	93	81
NO REMARKABLE FINDINGS	94	94	86	88	81
KIDNEYS					
-DILATED PELVIS	0	2	4	3	0
LUNGS					
-DARK RED AREA(S)	0	0	1	0	0
-CONSOLIDATED	0	0	2	0	0
TRACHEA					
-CONTENT ABNORMAL	0	0	2	1	0
URETERS					
-DISTENDED	0	2	0	2	0
DIAPHRAGM					
-HERNIA	0	0	0	1	0
-THIN AREA	0	1	0	0	0
BODY					
-HERMAPHRODITE	0	0	1	0	0

SLI Study No. 3472.4

APPENDIX A

Protocol, Protocol Amendments and Protocol Deviations

(171)

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL**

Springborn Study No. 3472.4

Springborn Laboratories, Inc. (SLI)  
Ohio Research Center  
640 N. Elizabeth Street  
Spencerville, OH 45887

Study Director  
Joseph C. Siglin, Ph.D., DABT

For

NIPERA, Inc.  
2605 Meridian Parkway  
Suite 200  
Durham, NC 27713

1/29/99

SLI Study No. 3472.4

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## I. PURPOSE

The purpose of this two-generation (2-G) reproduction toxicity study is to evaluate the potential effects of the test article on the integrity and performance of the reproductive system in male and female rats, including gonadal function, estrous cycling, mating behavior, conception, gestation, parturition, lactation, weaning, growth and development of the offspring. The study may also provide information about the effects of the test article on neonatal moribundity, mortality, target organs in the offspring, and preliminary data on prenatal and postnatal developmental toxicity. This study will be conducted in accordance with the Revised OECD Principles of GLP, adopted 26 Nov 97, [C(97)186/Final]. The study has been designed in conformance with OECD Guideline 416, Two-Generation Reproduction Toxicity Study, 26 May 1993.

## II. RESPONSIBILITIES

### A. Sponsor

Nickel Producers Environmental Research Association, Inc. (NiPERA)  
2605 Meridian Parkway  
Suite 200  
Durham, NC 27713

### B. Sponsor's Representative

Hudson, K. Bates, Ph.D., DABT  
Senior Health Scientist  
Telephone: (919) 544-7722  
Fax: (919) 544-7724  
e-mail: [hbates@nipera.org](mailto:hbates@nipera.org)



C. Testing Location

Springborn Laboratories, Inc.  
Ohio Research Center  
640 N. Elizabeth Street  
Spencerville, Ohio 45887  
Telephone: (419) 647-4196  
Fax: (419) 647-6560

D. Personnel Responsibilities

1. Joseph C. Siglin, Ph.D., DABT  
Study Director/Director of Toxicology
2. Bjorn A. Thorsrud, Ph.D.  
Alternate Contact/Manager of Developmental  
and Reproductive Toxicology
3. Malcolm Blair, Ph.D.  
Vice President and Managing Director
4. Robert C. Springborn, Ph.D.  
Chairman, President and CEO
5. Anita M. Bosau, RQAP-GLP  
Director of Compliance Assurance
6. J. Dale Thurman, D.V.M., M.S., DACVP  
Director of Pathology

### III. PROPOSED STUDY SCHEDULE

- A. Initiation of In-Life Phase: February, 1999
- B. Completion of In-Life Phase: October, 1999
- C. Audited Draft Report Date: April, 2000

NOTE: Brief unaudited reports and data tables will be provided to the Sponsor periodically during the course of the study, and following major phases.

### IV. TEST ARTICLE AND CONTROL MATERIAL

#### A. Test Article

1. Identification

Nickel(II) sulfate hexahydrate  
(CAS No. 10101-97-0)

2. SLI Test Article Identification Number

S98.001.3472

3. Batch (Lot) Number

08516TQ

4. Source

Aldrich Chemical Company

5. Purity

99%

6. Description

Blue green crystalline powder

7. Shelf Life/Expiration Date

None provided

8. Characteristics

The Sponsor is responsible for any necessary evaluations of the test article concerning chemical identity, purity, strength, stability, and other required data.

9. Storage Conditions

Ambient temperature; tightly closed container

10. Handling Precautions

Safety data regarding the test article has been provided by the Sponsor (Material Safety Data Sheet). Technical personnel are required to read this information prior to handling the test article. Any questions concerning this information should be referred to the Study Director. A Material Safety Data Sheet (or equivalent) shall also be available for all other chemical entities utilized in the conduct of this study.

Minimum safety requirements for in-life laboratory personnel include safety glasses, impervious gloves, and laboratory attire. Pharmacy personnel shall use respirators, tyvek suits, safety glasses and impervious gloves while handling the neat test article.

B. Retention Sample

A retention sample (1 g) of each lot of the test article will be taken and stored at SLI under the specified storage conditions.

C. Test Article Disposition

The test article will be returned to the Sponsor following completion of all scheduled studies with the material.

D. Vehicle Control Material

1. Identity

Reverse Osmosis-Deionized (RO-Di) Water from the SLI Pharmacy source.

E. Method and Frequency of Test Article Preparation

The test article will be dissolved in RO-Di water for administration by daily oral gavage. Gavage solutions will be prepared fresh at least every 21 days and stored refrigerated (approximately 2-8°C) until use. All procedures used in preparing the gavage solutions will be recorded and reported.

F. Analysis of Dosing Preparations

The test article has been previously demonstrated to be homogenous and stable in the vehicle for at least 24 hours at room temperature and 21 days when stored refrigerated. Therefore, further stability and homogeneity testing will not be necessary. During the course of the 2-G study, vehicle control and test article dosing solutions will be analyzed to verify target concentrations. The first preparations for the study, and every other preparation thereafter (preparation #1, 3, 5, 7, etc.), will be analyzed. At each analysis interval, triplicate 10 mL samples will be taken from each gavage solution, including the vehicle. Two sets of samples will be submitted for analysis. The third set of samples will be retained refrigerated as back-up samples.

Samples will be packed in ice and shipped by overnight courier to Lancaster Laboratories for analysis by Atomic Absorption. The samples will be shipped to the following address:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

## V. TEST SYSTEM

### A. Justification of the Test System

The Sprague-Dawley rat was selected as the animal model for this study since:

1. This species/strain has a proven sensitivity to a variety of agents and therefore provides a suitable animal model for testing chemicals and drugs for human risk assessment.
2. The OECD recommends the rat for 2-G studies.
3. Reliable scientific methods currently exist for performing rat reproduction studies. In addition, extensive historical control data are available at SLI and in the published literature concerning fertility and general reproduction in the rat.
4. The Sprague-Dawley rat has been used extensively for reproduction testing. Thus, data from this study may be compared and contrasted to other studies performed in rats.
5. Healthy rats may be obtained from USDA approved and regulated suppliers.
6. Laboratory rats may be safely handled and manipulated by trained laboratory personnel.

### B. Justification of the Route of Exposure and Number of Animals

1. Oral administration of the test article was selected since this is a potential route of human exposure. In addition, the oral route is recommended by the OECD for reproduction toxicity studies.

2. This study was designed to use the fewest number of animals possible, consistent with the objectives of the study, the scientific needs of the Sponsor, contemporary scientific standards and in consideration of applicable regulatory requirements.

C. Description

1. Species

Rat

2. Strain

Sprague-Dawley CrI:CD®(SD)IGS BR

3. Source

Charles River Laboratories, Inc.  
Route 209  
Kingston, NY 12484

4. Age and Body Weight (at Receipt)

Approximately 7 to 8 weeks old and at least 150 g (males) or 125 g (females). Actual body weights will be documented in the study records.

5. Number of Animals/Sex on Study

140 males and 140 females

A minimum of 155 males and 155 females will be obtained (F0 generation). The females will be nulliparous and nonpregnant. The males and females will be from different production areas within Charles River to avoid potential sibling pairings.

#### D. Method of Identification

Metal ear tags displaying unique identification numbers will be used as the method of permanent identification for F0 parental animals and selected F1 offspring. Tail and/or toe tattooing will be used to identify pups on postnatal day (PND) 0. Color coded cage cards displaying the study number, animal number and group number will be affixed to each cage. Selected F1 pups will be eartagged at the time when they are transferred to stainless steel caging.

#### E. Animal Husbandry

##### 1. Housing

All housing and care will be based on the standards recommended in the Guide for the Care and Use of Laboratory Animals [1]. Animal housing procedures will be as follows:

**F0 Animals:** Upon arrival, the F0 animals will be housed 2-3 per cage in suspended stainless steel caging, to allow the animals to adapt to the automatic watering system. After several days of gang housing, the F0 animals will be separated into individual cages.

##### **Mating and Gestation**

**Phases:** During mating of the F0 and F1 generations, females will be cohabitated with males 1:1 in suspended stainless steel cages. After mating (or completion of the mating phase), the males and females will be separated and housed individually in stainless steel caging.

##### **Parturition and Lactation:**

F0 and F1 females will be transferred to individual plastic nesting boxes containing direct bedding material for parturition and lactation. Females with positive evidence of mating will be transferred to

nesting boxes around gestation day 18. Females with no evidence of mating will be transferred to nesting boxes at approximately 19 days after initiation of the mating phase.

Selected F1

Offspring:

Selected F1 offspring will be transferred from nesting boxes to suspended stainless steel caging within one week following completion of weaning. Initially, the selected animals will be housed 2-3 per cage, in their respective groups, to allow them to adapt to the automatic watering system. After several days of gang housing, the selected animals will be separated into individual cages.

2. Environment

The environmental controls for the animal room will be set to maintain room temperature and relative humidity ranges of  $72 \pm 7^\circ\text{F}$  and  $50 \pm 20\%$ , respectively. Environmental control equipment will be monitored and adjusted as necessary to minimize fluctuations in the animal room environment. Light timers will be set to maintain a 12-hour light/12-hour dark cycle and the room ventilation will be set to produce 10-15 air changes/hour. The room temperature and relative humidity will be recorded a minimum of once daily.

3. Food

PMI Certified Rodent Chow® #5002 (Purina Mills, Inc.) will be provided ad libitum throughout the study. The feed is analyzed by the supplier for nutritional components and environmental contaminants. The lot number and expiration date of each batch of diet used during the study will be recorded. Dietary limitations for various environmental contaminants, including heavy metals, pesticides, polychlorinated biphenyls and total aflatoxin are set by the manufacturer. Within these limits, there are no contaminants reasonably expected in the diet which would interfere with the conduct of this study. Results of the dietary analyses (Certificates of Analysis) are provided by the manufacturer for each lot of diet. These will be maintained by the testing laboratory.



#### 4. Water

Municipal tap water following treatment by reverse osmosis and UV irradiation will be available ad libitum throughout the study. The water will be supplied by an automatic watering system or in water bottles (nesting boxes). Monitoring of the drinking water for contaminants will be conducted by the testing laboratory and the records will be available for inspection. Levels of contaminants which may be present are not expected to compromise the purpose of the study.

#### F. Acclimation

Upon receipt, 5-6 week old Charles River CD:IGS BR rats will be removed randomly from the shipping cartons and housed 2-3 per cage. The animals will be allowed to acclimate for a minimum of 10 days. After several days of gang housing, the rats will be separated into individual cages, weighed, and observed in detail for overt physical and behavioral abnormalities. General health/mortality and moribundity checks will be performed twice daily, in the morning and afternoon, throughout the acclimation period. Any animals exhibiting abnormal signs will not be used on the study.

#### G. Randomization

Prior to the start of the study, the F0 animals will be weighed and examined in detail for signs of physical disorder (detailed clinical observations). Animals determined to be suitable as test subjects will be assigned randomly to groups. The animal numbers and the respective body weight values will be entered into the computer. Homogeneity of groups by weight will be the criterion for acceptance of the randomization. Disposition of animals not selected for study will be documented in the study records. At the commencement of the study, the weight variation of the animals used will not exceed  $\pm 20\%$  of the mean weight for that sex.

## VI. EXPERIMENTAL DESIGN AND PROCEDURES

### A. Study Group Design

The experimental design for the study is illustrated in the study flow-chart provided in Appendix A. Information concerning the number of groups, number of parental animals per generation and experimental treatments is provided in the following table:

Group	No. of Parental Animals per Generation		Dosage Material <sup>a</sup>	Dosage Level (mg/kg/day)	Dosage Conc. (mg/mL)	Dosage Volume (mL/kg)
	Male	Female				
1	28	28	Vehicle	0	0	10
2	28	28	NSH	1.0	0.10	10
3	28	28	NSH	2.5	0.25	10
4	28	28	NSH	5.0	0.50	10
5	28	28	NSH	10.0	1.00	10

<sup>a</sup>Vehicle = RO-Di water; NSH = nickel sulfate hexahydrate in aqueous solution.

### B. Rationale for Dosage Level Selection

Dosage levels for the 2-G study will be selected by the Sponsor based on results of SLI Study No. 3472.3: A One-Generation Reproduction Range-Finding Study in Rats with Nickel Sulfate Hexahydrate. The dosage levels will be selected in an attempt to produce graded responses to the test article. The high dose level should produce some toxic effects, but not excessive lethality. The intermediate dose levels should produce minimal observable effects. The lowest dose level should produce no observable effects, if possible.

### C. Treatment

Oral (gavage) administration. The test article and vehicle will be administered once daily, by oral gavage, to F0 parents and selected F1 offspring. Individual doses will be based on the most recent body weights. Study animals will receive continuous exposure to the control or test article throughout the study, at the appropriate levels, until scheduled euthanasia (i.e., animals will be dosed up to and including the day prior to scheduled euthanasia). F0 parental animals will be treated continuously for a minimum of 10 weeks (70 days) prior to mating. Selected F1 offspring will be treated continuously starting on postnatal day 22. All doses will be administered using a disposable plastic syringe with attached 18-gauge 2-inch gavage needle, until the rats are of appropriate size for a 16-gauge 3-inch gavage needle (e.g., at least 100 g). All reasonable attempts will be made to complete dosing by 10:00 a.m. each day, recognizing that on some days this may not be feasible (e.g., due to parturition and/or scheduling conflicts).

### D. Parameters to be Evaluated

#### 1. Clinical Signs--F0 and F1 Parents

F0 and F1 parental animals will be checked for mortality/general health and moribundity twice daily during the study, in the morning and afternoon. Detailed clinical observations will be performed once weekly. In addition, cage-side observations for overt signs of toxicity will be performed a minimum of once daily, within approximately one-half to two hours following dosing. During gestation and lactation, F0 and F1 females will be examined for clinical signs on a daily basis.

Weekly detailed clinical observations will begin for F0 males and females on the day of in-life initiation. A detailed clinical observation will also be performed on all F0 and F1 males and females on the day of scheduled euthanasia.

#### 2. Body Weights--F0 and F1 Parents

F0 and F1 parental animals will be weighed on a weekly basis during the study. Weekly weighing of selected F1 animals will begin following post-weaning selection. Individual body weights will be recorded until

scheduled euthanasia. The specific weighing schedule for F0 and F1 males and females is as follows:

- a. Males--recorded once per week and on the day of scheduled euthanasia.
- b. Females--recorded once per week prior to confirmation of copulation. Females with positive mating signs and females that deliver will be weighed as follows:

Gestation--days 0, 7, 14 and 20.

Lactation--days 1, 4, 7, 14, 21.

Females with no evidence of copulation and those that fail to deliver will be weighed weekly and on the day of scheduled euthanasia.

### 3. Food Consumption--F0 and F1 Parents

Individual food weights will be collected on the same day as the body weights, except during periods of cohabitation and lactation, when food consumption will not be measured.

### 4. Estrous Cycle Determinations--F0 and F1 Female Parents

Estrous cycle length and normality will be evaluated by daily vaginal smears from all F0 and F1 females for a minimum of three weeks (21 days) prior to mating and throughout cohabitation until evidence of copulation is observed or until conclusion of the mating period. The vaginal smears will be performed at approximately the same time each day. The stage of estrous will also be determined for each F0 and F1 female on the day of scheduled euthanasia.

## E. Breeding--F0 and F1

After a minimum of 70 days of treatment, each female will be cohabitated with a single randomly selected male from the same treatment group (1:1 pairings). The female will be placed in the male's cage. During the breeding phase of the F1 generation, only non-siblings will be mated. Each mating pair will be observed for positive evidence of copulation once daily during

cohabitation. Detection of a vaginal copulatory plug or the presence of sperm in a vaginal smear will be the methods used to confirm copulation. The day on which confirmation of mating is made will be designated as day 0 of gestation, and will result in separation of the mating pair. The female will be returned to her individual cage. If after 14 days no evidence of copulation is observed, the female will be separated from her mate and the mating phase will be concluded.

If there is a poor reproductive performance in controls or treatment-related alterations in litter size, adults may be remated to produce an F1b or F2b generation (additional cost). In this case, females would be remated at approximately 1 to 2 weeks following weaning of the last F1a or F2a litter.

#### F. Parturition--F0 and F1 Animals

Females with confirmed copulation will be transferred to plastic cages containing nesting material on approximately gestation day 18. Each female will then be observed at least twice daily for signs of parturition. Females with no evidence of mating will be examined for signs of parturition beginning 19 days following initiation of cohabitation. When parturition is first detected, the time will be recorded. The day when parturition is judged complete will be designated lactation day 0. Any signs of difficult or prolonged parturition will be recorded.

#### G. Lactation--F0 and F1 Female Parents

The lactation period will extend from days 0 to 21 during which time the dam and litter will remain together. Any abnormal nursing or nesting behaviors will be noted.

##### 1. Method of Individual Pup Identification--F1 and F2 Litters

Tail and/or toe marking will be used to individually identify each pup in the litter. On lactation day 0, pups in each litter will be consecutively numbered beginning with dead pups, followed by viable pups.

## 2. Offspring--F1 and F2 Litters

The following parameters will be evaluated for each pup during lactation:

- a. Viability: daily from days 0 to 21.
- b. External Examinations: days 0, 4, 7, 14 and 21.
- c. Sex Determinations: days 0, 4, 7, 14 and 21.
- d. Body Weights: days 1, 4, 7, 14 and 21.

## 3. Standardization of Litter Sizes--F1 and F2 Litters

On lactation day 4, the size of each litter will be adjusted by random selection of pups to yield, as nearly as possible, 4 males and 4 females per litter. Whenever the number of male and female pups prevents having 4 of each sex per litter, partial adjustment will be undertaken. No adjustments will be made for litters of 8 pups or less. Culled pups will be euthanized by carbon dioxide inhalation and discarded without necropsy.

## H. Selection of F1 Parental Animals

At least 1 pup/sex/litter will be randomly selected when possible for mating with another pup from the same group but different litter to produce the F2 generation. The selection procedure will be performed when the pups are between postpartum days 4 and 21. Prior to the selection process, each pup will be externally examined and the sex verified. Only animals of suitable health will be acceptable for selection. A total of 28 male and 28 female F1 pups per group will be randomly selected to produce the next generation. Following selection, F1 pups will be individually ear tagged and then gang housed (2 or 3 per cage) in stainless steel caging for approximately 3 days to allow the animals to adapt to the automatic watering system.

## I. Developmental Landmarks--F1

F1 offspring selected to produce the F2 generation will be evaluated for vaginal opening and preputial separation as described below.

1. Vaginal Opening

Each F1 female pup selected for mating will be observed daily for vaginal opening beginning on postpartum day 33. For each female, daily examinations will continue until vaginal opening has occurred.

2. Preputial Separation

Each F1 male pup selected for mating will be observed daily for separation of the prepuce and the glans penis beginning on postpartum day 40. For each male, daily examination will continue until preputial separation has occurred.

#### J. Nonselected F1 Pups and F2 Pups

On lactation day 21, all remaining nonselected F1 pups (i.e., those not selected to produce the F2 generation) and all F2 pups will be submitted to necropsy for euthanasia and gross necropsy examination as described in Section VI.K.4.

#### K. Gross Necropsy

1. Unscheduled Deaths--F0 and F1 Parental Animals

All F0 and F1 parental animals found dead or euthanized moribund during the study will be subjected to a complete gross necropsy examination. Moribund parental animals will be euthanized by carbon dioxide inhalation. The necropsy examination will include, but not be limited to, examination of the external surfaces of the body, all orifices, and the cranial, thoracic, abdominal and pelvic cavities and their contents. All gross abnormalities will be recorded. Uterine contents will be examined and the number of implantation sites will be recorded. Uteri with no macroscopic evidence of implantation will be placed in 10% aqueous ammonium sulfide solution to enhance the detection of implantation sites, as described by Salewski [2]. For each parental animal found dead or euthanized moribund, the following tissues will be preserved in 10% neutral buffered formalin for possible future histopathological examination.

accessory genital organs (epididymides, seminal vesicles, prostate or uterus and vagina)  
adrenals (2)  
all gross lesions  
brain  
cecum  
colon  
duodenum  
esophagus  
heart  
ileum  
jejunum  
kidneys (2)  
liver (2 lobes examined; 3 sections collected)  
lungs<sup>a</sup> with bronchi (2)  
mammary gland<sup>b</sup>  
pancreas  
pituitary  
spinal cord  
spleen  
stomach  
testes/ovaries  
thymus<sup>b</sup>  
thyroid/parathyroid (2)<sup>c</sup>  
trachea  
urinary bladder

<sup>a</sup>Lungs will be inflated with formalin via the trachea.

<sup>b</sup>At times these tissues cannot be identified with the unaided eye because of physiologic variation in size. However, tissue from the region will be fixed for possible microscopic evaluation.

<sup>c</sup>Parathyroids cannot always be identified macroscopically. They will be examined if in the plane of the section.

## 2. Scheduled Euthanasia--F0 and F1 Parental Animals

The decision to initiate scheduled euthanasia procedures for surviving F0 and F1 parental animals will be made by the Sponsor and Study Director following preliminary assessment of male and female reproductive performance (i.e., following examination of copulation and fertility indices, parturition data, etc.). In general, males will be euthanized near completion of female parturition. Females will be euthanized according to the following schedule:

### a. Females that Deliver: Lactation Day 21



- b. Females with Total Litter Loss: at the time of discovered total litter loss
- c. Females that Fail to Deliver (with evidence of mating): 25 days after evidence of mating is detected
- d. Females that Fail to Deliver (with no evidence of mating): 25 days after completion of the mating phase.

Surviving F0 and F1 parental animals will be euthanized by carbon dioxide inhalation and subjected to a complete gross necropsy examination. The necropsy examination will include, but not be limited to, examination of the external surfaces of the body, all orifices, and the cranial, thoracic, abdominal and pelvic cavities and their contents. All gross abnormalities will be recorded. Uterine contents will be examined and the number of implantation sites will be recorded. Uteri with no macroscopic evidence of implantation, will be placed in 10% aqueous ammonium sulfide solution to enhance the detection of implantation sites, as described by Salewski [2]. The following organs from all surviving F0 and F1 parental animals will be preserved in 10% neutral buffered formalin for possible future histopathological examination:

- adrenal glands
- brain
- gross lesions
- kidneys
- liver
- ovaries
- pituitary
- prostate
- epididymides (paired)
- testes (preserved in Bouin's fixative for 48 to 96 hours, rinsed and then retained in 10% neutral buffered formalin)
- seminal vesicles (with coagulating glands)
- spleen
- uterus (with oviducts and cervix)
- vagina

For all F0 and F1 males euthanized at scheduled necropsy, sperm samples will be collected and evaluated as described in VI.N.

3. **Unscheduled Deaths--Nonselected F1 Pups and F2 Pups**

All nonselected F1 pups and F2 pups found dead or euthanized moribund will be submitted to necropsy for a gross examination, with emphasis on developmental morphology. Pups with deformities which are expected to affect survival, and pups partially cannibalized but viable, will be euthanized by carbon dioxide inhalation and necropsied similar to dead pups. Tissues will not be saved unless specifically requested by the Sponsor or Study Director.

4. **Scheduled Euthanasia--Nonselected F1 Pups and F2 Pups**

On lactation day 21, all surviving nonselected F1 pups and all F2 pups will be euthanized by carbon dioxide inhalation and examined macroscopically for structural abnormalities or other pathological changes. During the examination, special attention will be directed to organs of the reproductive system. All gross lesions will be preserved in 10% neutral buffered formalin for possible future histopathological examination.

L. **Organ Weights**

1. **F0 and F1 Parental Animals**

The following organs from all surviving F0 and F1 parental animals will be weighed at scheduled necropsy:

adrenal glands (paired)  
brain  
epididymides (paired)  
kidneys (paired)  
left cauda epididymis (for caudal sperm calculations, millions/g cauda)  
testes (paired, left and right testis)  
liver  
ovaries (paired)  
pituitary  
prostate  
seminal vesicles (paired, with coagulating glands)  
spleen  
uterus (with oviducts and cervix)

## M. Histopathology

### 1. F0 and F1 Parental Animals (Unscheduled Deaths)

All tissues from F0 and F1 parental animals found dead or euthanized moribund during the study (see VI.K.1) will be examined microscopically. The tissues will be processed to slides as described below in VI.M.2.

### 2. F0 and F1 Parental Animals (Scheduled Euthanasia)

Tissues listed in VI.K.2. will be processed and examined microscopically from all surviving high-dose and control F0 and F1 animals. The tissues will be embedded in paraffin, sectioned, mounted on glass slides, and stained with hematoxylin and eosin. The histological processing will be performed by Histo Techniques, Powell, Ohio. Microscopic pathology will be performed by a Board Certified Pathologist experienced in rodent pathology. Special stains and techniques may be used by the Pathologist as needed to aid in the diagnosis of specific lesions. If a tissue is missing from the microscopic slide, the Pathologist and Histologist will determine what, if any, steps will be taken to obtain an additional sample for examination.

At the discretion of the Sponsor and Study Director, the histopathological examination may be extended to intermediate and low-dose animals, to further investigate potential treatment-related effects observed at the high-dose level (additional cost). Additionally, reproductive organs from animals suspected of reduced fertility (e.g., those that failed to mate, conceive, sire, or deliver healthy offspring, or for which estrous cyclicity or sperm number, motility or morphology were affected) may also be processed for microscopic examination at the discretion of the Sponsor and Study Director (additional cost).

### 3. Nonselected F1 Pups and F2 Pups

Histopathological examination of tissues from surviving weanling F1 and F2 pups will be conducted at the discretion of the Sponsor and Study Director (additional cost) if such evaluations would contribute significantly to the study.

## N. Sperm Evaluations--F0 and F1 Adult Males

Sperm will be collected from all F0 and F1 adult males euthanized at scheduled necropsy for sperm count, concentration, motility and morphology assessment. Initially, the control and high-dose groups will be analyzed. If treatment-related effects are observed, then the lower dose groups will be evaluated. Sperm counts, concentrations and motility analyses will be performed with the aid of a computer-assisted sperm analyzer (Hamilton-Thorne IVOS 10). Sperm morphology will be assessed manually by trained personnel.

### 1. Cauda Sperm Enumeration and Concentration

The left cauda epididymis will be thoroughly homogenized and a sample of the resulting homogenate will be analyzed to determine cauda epididymal sperm number and concentration. The cauda sperm counts will be expressed in terms of cauda weight, i.e., Millions (M)/(g) left cauda weight. Cauda sperm concentration will be expressed as M/mL.

### 2. Sperm Motility

Sperm motility (%) will be assessed from sperm samples collected from the vas deferens of F0 and F1 adult males. All samples will be video taped or recorded to an optical disk at the time of necropsy and subsequently analyzed.

### 3. Sperm Morphology

Sperm morphology will be assessed by microscopic examination of a minimum of two-hundred sperm per animal at 300-500x magnification. Morphological endpoints will be based primarily on head and tail abnormalities, according to a modification of the classification systems described by Linder [3] and Seed [4]. The mean percentage of normal sperm will be calculated for each group.

## VII. PROTOCOL AMENDMENT

Alterations to this protocol may be made as the study progresses. However, no changes in the protocol will be made without the specific consent of the Sponsor's Representative. A protocol amendment will be prepared and signed by the Study Director, SLI Quality Assurance and the Sponsor's Representative for any such changes.

## VIII. DATA REPORTING

One copy of the draft report and two copies of the final report (one bound and one unbound) will be submitted to the Sponsor. The final report will include all information necessary to provide a complete and accurate description of the experimental procedures and results.

The report will include at least the following information, tables and appendices:

- Table of Contents
- Quality Assurance Statement
- Summary
- Introduction and Objectives
- Experimental Design and Test Procedures
- Presentation and Discussion of Results
- Conclusion
- References

Tables:

- Summary of F0 and F1 Parental Survival and Incidence of Clinical Signs
- Summary of F0 and F1 Parental Body Weights and Body Weight Changes
- Summary of F0 and F1 Parental Food Consumption (g/animal/day)
- Summary of F0 and F1 Gestation and Lactation Body Weights and Body Weight Changes
- Summary of F0 and F1 Gestation Food Consumption (g/animal/day)
- Summary of F0 and F1 Estrous Cycle Data, Including Mean Estrous Cycle Lengths

- Summary of F0 and F1 Copulation and Fertility Indices, and Mean Gestation Lengths
- Summary of F1 and F2 Litter Data (Viability, Litter Size and Sex Ratios)
- Summary of F1 and F2 Litter Weights
- Summary of F1 and F2 Pup Observations
- Summary of F1 Vaginal Opening
- Summary of F1 Preputial Separation
- Summary of F0 and F1 Parental Gross Necropsy Findings
- Summary of F0 and F1 Parental Absolute and Relative Organ Weights
- Summary of F1 and F2 Weanling Gross Necropsy Findings
- Summary of Male Semen Parameters
- Summary of Implantation Data and Post-Implantation Loss
- Individual F0 and F1 Parental Survival and Incidence of Clinical Signs
- Individual F0 and F1 Parental Body Weights and Body Weight Changes
- Individual F0 and F1 Parental Food Consumption (g/animal/day)
- Individual F0 and F1 Gestation and Lactation Body Weights and Body Weight Changes
- Individual F0 and F1 Gestation Food Consumption (g/animal/day)
- Individual F0 and F1 Estrous Cycle Data, Including Estrous Cycle Lengths
- Individual F0 and F1 Gestation Lengths.
- Individual F1 and F2 Litter Data (Viability)
- Individual F1 and F2 Litter Weights
- Individual F2 Pup Observations
- Individual F1 Vaginal Opening
- Individual F1 Preputial Separation
- Individual F0 and F1 Parental Gross Necropsy Findings
- Individual F0 and F1 Parental Absolute and Relative Organ Weights
- Individual F1 and F2 Weanling Gross Necropsy Findings
- Individual Male Semen Data
- Individual Implantation Data and Post-Implantation Loss

Appendices:

- Protocol and any Amendments
- Analytical Chemistry Report
- Histopathology Report
- SLI Reproduction Historical Control Data
- SLI Personnel Responsibilities

## IX. STATISTICAL ANALYSIS

Statistical analyses will be performed by a Digital MicroVax 3100 computer. The level of significance will be a minimum of 5% ( $p < 0.05$ ) and all tests will be two-tailed. The summary tables will indicate the level of significance detected. Group means, standard deviations and sample sizes will be displayed. The control group data will be compared to the treated data using all groups or by an individual group-by-group comparison depending on the test. Body weights, body weight gains, food consumption, semen parameters, organ weights, gestation lengths, estrous cycle lengths, pup body weights and mean live litter sizes will be analyzed by one way analysis of variance. If significance is detected, control to treatment group comparison will proceed with Dunnett's test. Chi-Square test will be used to analyze copulation and fertility indices, pup sex ratios, the number of live and dead pups per group (on lactation day 0), pup survival (after lactation day 0), vaginal opening, preputial separation, and the number of females exhibiting estrous cyclicity. Post-implantation loss (calculated as the number of implantation scars minus live pups on lactation day 0) will be analyzed by Mann-Whitney U test.

## X. MAINTENANCE OF RAW DATA, RECORDS AND SPECIMENS

All original data, specimens and reports from this study are the property of the Sponsor. These materials shall be available at SLI to facilitate auditing of the study during its progress and prior to acceptance of the final report. Following study completion, all original paper data, magnetically encoded records, tissues, tissue blocks, slides and the final report will be transferred to the SLI archives and stored for a minimum of 10 years. The Sponsor will be contacted prior to any final disposition of these materials. At least the following records will be maintained:

- Protocol and any amendments
- Animal receipt, acclimation, randomization and final disposition
- In-life records such as mortality/general health checks, animal husbandry, clinical observations, body weights, and other relevant in-life data
- Computer records such as computer protocols, operator lists, edits and edit checks
- Pharmacy records including test article receipt, inventory, preparation, dispensation and disposition
- Analytical analyses related to the test article

- Water and feed analyses/certifications
- Specimen retention and inventory records
- All correspondence related to the study
- QA inspections and related reports

## XI. REGULATORY COMPLIANCE

The study will be conducted in accordance with the Revised OECD Principles of GLP, adopted 26 Nov 97, [C(97)186/Final].

## XII. QUALITY ASSURANCE

All critical phases of this study will be inspected by Springborn Laboratories, Inc., Quality Assurance Unit while in progress to assure compliance with Good Laboratory Practice Standards, SLI's Standard Operating Procedures and for conformance with the protocol and protocol amendments. The final report will be audited prior to submission to the Sponsor to ensure that it completely and accurately describes the test procedures and results of the study.

## XIII. ANIMAL WELFARE COMPLIANCE STATEMENT

In order to ensure the welfare of the animals used on this project, this study will comply with all applicable sections of the Final Rules of the Animal Welfare Act regulations (9 CFR) and the Public Health Service Policy on Humane Care and Use of Laboratory Animals (OPRR, NIH, 1986). All procedures conducted on the animals have been approved by the Springborn Laboratories, Inc. Institutional Animal Care and Use Committee (SLI IACUC) and are described in the study protocol and/or the standard operating procedures of this institution. These procedures are based on the most currently available regulatory accepted technologies. A maximum of 310 F0 animals will be used on this study.

In order to reduce the possibility of animals being exposed to overt pain/distress, the animals used on this study will be observed daily by the technical staff and monitored as necessary by the Study Director or Facility Veterinarian. If an animal




is determined to be in overt pain/distress, the animal will be euthanized for humane reasons in accordance with the Report of the AVMA on Euthanasia [5]. In addition, if an animal appears moribund and is beyond the point where recovery appears reasonable, the animal will be euthanized for humane reasons. Anesthetics/analgesics will not be used on this study since such treatment could interfere with the study and confound the results.

#### XIV. DECLARATION OF INTENT


This study will be listed on the SLI Quality Assurance Master Schedule for the OECD.

XV. PROTOCOL APPROVAL

The Sponsor's signature below documents that there are no acceptable non-animal alternatives for this study, and that since this study is required by the relevant supervising government agency, it does not unnecessarily duplicate any previous experiments.

  
\_\_\_\_\_  
Joseph C. Siglin, Ph.D., DABT  
Study Director (SLI)

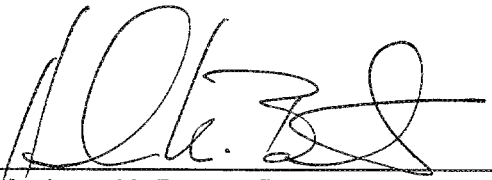
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*for*   
\_\_\_\_\_  
Malcolm Blair, Ph.D.  
Vice President and Managing Director (SLI)

Date: 1-29-99

  
\_\_\_\_\_  
Deborah M. Salerico  
Quality Assurance Unit (SLI)

Date: 1-29-99

  
\_\_\_\_\_  
Hudson K. Bates, Ph.D., DABT  
Sponsor's Representative  
(Principal Investigator)

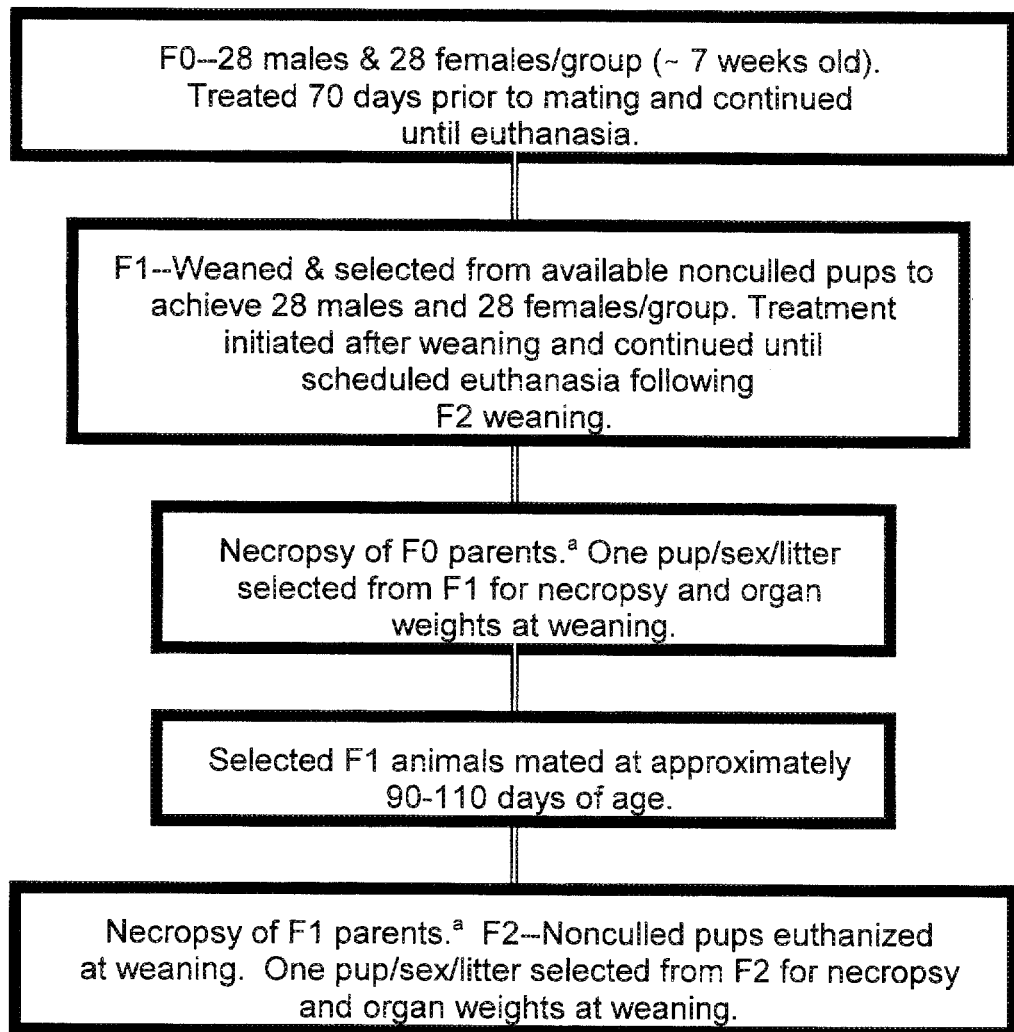
Date: 2-8-99

## XVI. REFERENCES

1. Guide for the Care and Use of Laboratory Animals, DHHS Publication No. (NIH) 96-03, 1996.
2. Salewski, V.E. Färbemethode zum makroskopischen Nachweis von Implantations-stellen am Uterus der Ratte, Naunyn-Schm. Archiv. Für Exper. Pathologie und Pharm., 247:367, 1964.
3. Linder, R.E., Strader, L.F., Slott, V.L., and Suarez, J.D., Endpoints of spermatotoxicity in the rat after short duration exposures to fourteen reproductive toxicants, Reproductive Toxicology, 6:491-505, 1992.
4. Seed, J. Shapin, R.E., Clegg, E.D., Dostal, L.A., Foote, R.H., Hurtt, M.E., Llinefelter, G.R., Makris, S.L., Perrault, S.D., Schrader, S., Seyler, D., Sprando, R., Treinen, K.A., Veermachaneni, D.N.R., and Wise, L.D., Methods for assessing sperm motility, morphology, and counts in the rat, rabbit, and dog: A consensus report, Reproductive Toxicology, 10(3):237-244, 1996.
5. 1993 Report of the American Veterinary Medical Assoc. Panel on Euthanasia, JAVMA, Vol. 202, No. 2, pp. 229-249, January 15, 1993.

## APPENDIX A

## Study Design Flow-Chart



<sup>a</sup>Sperm analysis and histopathologic evaluation of reproductive organs performed on the control and high-dose F0 and F1 parental animals.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 1**

1) PART TO BE CHANGED/REVISED (EFFECTIVE DATE JULY 2, 1999):

V.E.3. Food

**CHANGE/REVISION:**

Add the following instructions to the end of this section:

The current feed lot and all future feed lots used for the study will be analyzed for background nickel content. Each feed sample (approximately 100 g per sample) will be packed in wet ice and shipped by overnight courier to Lancaster Laboratories for analysis by Atomic Absorption (see protocol Section IV.F. for shipping address). Sample containers will be provided by Lancaster Laboratories and the samples will be collected and shipped by the SLI Pharmacy Department.

**REASON FOR CHANGE/REVISION:**

Nickel is not a component of the current diet certification process. Because the subject of this study is a nickel compound, it is important to assess background nickel content in the diet.

2) PART TO BE CHANGED/REVISED (EFFECTIVE DATE JULY 2, 1999):

V.E.4. Water

**CHANGE/REVISION:**

Add the following instructions to the end of this section:

Beginning in July, 1999, animal drinking water samples will be obtained and analyzed for background nickel content on a monthly basis. Each water sample (approximately 500 mL per sample) will be packed in wet ice and shipped by overnight courier to Lancaster Laboratories for analysis (see protocol Section IV.F. for shipping address). The drinking water samples will be obtained from the animal room, directly from several animal sippers. Sample containers will be provided by Lancaster Laboratories and the samples will be collected and shipped by the SLI Pharmacy Department.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 1**

**REASON FOR CHANGE/REVISION:**

Nickel is not a component of water analyses conducted by SLI. Because the subject of this study is a nickel compound, it is important to assess background nickel content in the water.

**3) PART TO BE CHANGED/REVISED (EFFECTIVE DATE MAY 25, 1999):**

VI.D.3. Food Consumption--F0 and F1 Parents

**CHANGE/REVISION:**

Add the following sentence as the last sentence in this section:

For selected F1 animals, weekly food consumption will not be measured until the animals have been individually housed (i.e., food consumption will not be measured during gang housing for acclimation to the automatic watering system).

**REASON FOR CHANGE/REVISION:**

To clarify weekly food consumption procedures for selected F1 animals.

**4) PART TO BE CHANGED/REVISED (EFFECTIVE DATE MAY 20, 1999):**

VI.K.2. Scheduled Euthanasia--F0 and F1 Parental Animals

**CHANGE/REVISION:**

Following fixation in Bouin's solution for 48 to 96 hours, testes will be rinsed and retained in 70% isopropyl alcohol (not 10% neutral buffered formalin).

**REASON FOR CHANGE/REVISION:**

To correct a clerical mistake in the protocol. Bouin's solution followed by alcohol fixation is generally regarded as the optimal fixation procedure for rat testes.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 1**

5) PART TO BE CHANGED/REVISED (EFFECTIVE DATE APRIL 28, 1999):

VI.K.3. Unscheduled Deaths--Nonselected F1 Pups and F2 Pups

CHANGE/REVISION:

Add the following sentence, just prior to the last sentence in this section:

Nonviable cannibalized pups with no apparent deformities will be discarded.

REASON FOR CHANGE/REVISION:

To address the standard procedure for this category of pups.

6) PART TO BE CHANGED/REVISED (EFFECTIVE DATE JULY 2, 1999):

Appendix A. Study Design Flow-Chart

CHANGE/REVISION:

The following two phrases will be removed from the Flow-Chart:

“One pup/sex/litter selected from F1 for necropsy and organ weights at weaning”


“One pup/sex/litter selected from F2 for necropsy and organ weights at weaning”

REASON FOR CHANGE/REVISION:

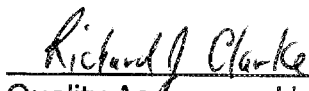
To correct clerical mistakes in the protocol. These phrases, which were inadvertently included in the protocol, are not part of the experimental design.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

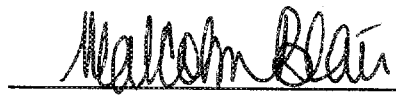
**PROTOCOL AMENDMENT NO. 1**

  
\_\_\_\_\_  
Joseph C. Siglin, Ph.D., DABT  
Study Director (SLI)

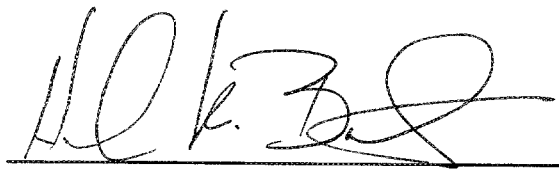
Date: 7/2/99

  
\_\_\_\_\_  
Richard J. Clarke  
Quality Assurance Unit (SLI)

Date: 7-2-99

  
\_\_\_\_\_  
Malcolm Blair, Ph.D.  
Vice President and Managing Director (SLI)

Date: 7-2-99

  
\_\_\_\_\_  
Hudson K. Bates, Ph.D., DABT  
Sponsor's Representative

Date: 7-7-99



**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 2**

- 1) PART TO BE CHANGED/REVISED (EFFECTIVE DATE SEPTEMBER 15, 1999):

VI.D.4. Estrous Cycle Determinations--F0 and F1 Female Parents

CHANGE/REVISION:

Beginning on September 15, 1999, all final vaginal smears from F1 females will be stained with Wright-Giemsa and retained as described in SLI SOP 900.2

REASON FOR CHANGE/REVISION:

To ensure slide availability for possible microscopic examination at the discretion of the Pathologist.



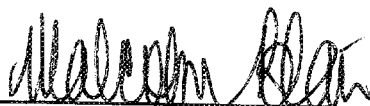
Joseph C. Siglin, Ph.D., DABT  
Study Director (SLI)

Date: 9/15/99



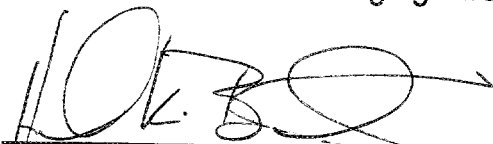
Anita M. Bosau  
Quality Assurance Unit (SLI)

Date: 9/15/99



Malcolm Blair, Ph.D.  
Vice President and Managing Director (SLI)

Date: 10/11/99



Hudson K. Bates, Ph.D., DABT  
Sponsor's Representative

Date: 10-5-99

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 3**

1) PART TO BE CHANGED/REVISED (EFFECTIVE DATE AUGUST 7, 2000):

III. PROPOSED STUDY SCHEDULE

CHANGE/REVISION:

Replace this section with the following:

- A. Initiation of In-Life Phase: February 1, 1999
- B. Completion of In-Life Phase: October 15, 1999
- C. Unaudited Draft Report Date: May 18, 2000
- D Audited Draft Report Date: August 7, 2000

REASON FOR CHANGE/REVISION:

To reflect the actual study dates.

2) PART TO BE CHANGED/REVISED (EFFECTIVE DATE OCTOBER 7, 1999):

IV. F. Analysis of Dosing Preparations

CHANGE/REVISION:

Add the following after the first paragraph in this section:

No samples will be analyzed from the final pharmacy preparation on October 8, 1999.

REASON FOR CHANGE/REVISION:

The final pharmacy preparations are needed for only a few animals in groups 1, 2 and 4. Due to the small quantities needed for dosing, samples will not be collected analysis.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 3**

3 PART TO BE CHANGED/REVISED (EFFECTIVE DATE JANUARY 29, 1999)

V.C.4. Age and Body Weight (at Receipt)

CHANGE/REVISION:

Change "(at Receipt)" to "(at In-Life Initiation)".

REASON FOR CHANGE/REVISION:

The age and weight ranges included in this section were the projected ranges expected at in-life initiation, rather than at animal receipt.

4) PART TO BE CHANGED/REVISED (EFFECTIVE DATE MAY17, 1999):

VI.K.2. Scheduled Euthanasia--F0 and F1 Parental Animals

CHANGE/REVISION:

The liver tissue will be harvested and retained as three sections of three main lobes of the liver. In addition, replace "epididymides (paired)" with "right epididymis".

REASON FOR CHANGE/REVISION:

This procedure will provide the best representative sample of liver for fixation and processing, rather than submitting the entire liver. In addition, only the right epididymis will be retained in 10% neutral buffered formalin since the left epididymis is utilized for sperm evaluations.

5) PART TO BE CHANGED/REVISED (EFFECTIVE DATE APRIL 8, 1999):

VI.L.1. F0 and F1 Parental Animals

CHANGE/REVISION:

Delete "(with oviducts and cervix)" from the uterus. In addition, the seminal vesicles should be weighed with coagulating glands and their fluids.

**AN ORAL (GAVAGE) TWO-GENERATION REPRODUCTION  
TOXICITY STUDY IN SPRAGUE-DAWLEY RATS  
WITH NICKEL SULFATE HEXAHYDRATE**

**PROTOCOL AMENDMENT NO. 3**

**REASON FOR CHANGE/REVISION:**

The uterus will be weighed alone, not with the oviducts and cervix. Additionally, the seminal vesicles will be weighed with coagulating glands and their fluids.

**6) PART TO BE CHANGED/REVISED (EFFECTIVE DATE JANUARY 29, 1999):**

**IX. STATISTICAL ANALYSIS**

**CHANGE/REVISION:**

Delete "vaginal opening" and "preputial separation" from the list of parameters to be analyzed using the Chi-Square Test.

**REASON FOR CHANGE/REVISION:**

These parameters were inadvertently listed in the original protocol; however, statistical analyses will not be performed for vaginal opening or preputial separation.

Joseph C. Siglin  
Joseph C. Siglin, Ph.D., DABT  
Study Director (SLI)

Date: 8/15/00

Auto M. Basau  
Quality Assurance Unit (SLI)

Date: 8/15/00

Malcolm Blair  
Malcolm Blair, Ph.D.  
Vice President and Managing Director (SLI)

Date: 8/15/00

Hudson K. Bates  
Hudson K. Bates, Ph.D., DABT  
Sponsor's Representative

Date: 8-8-00

## SLI Study No. 3472.4

The following protocol deviations were noted during the conduct of the study. None of the noted deviations or occurrences impacted the validity or integrity of the study.

1. The animal room relative humidity was outside the specified range (i.e., 30-70%) on 20 occasions during the study. The actual animal room relative humidity ranged from 20-95%.
2. The feed lot number was not recorded during week 11 for the F1 animals.
3. F0 group 4 male #21637 and F1 group 5 female #336-08 were found without food at the feed check on day 84 and lactation day 21, respectively; the animals were immediately fed.
4. There is no documentation that the following animals were dosed during the study:

Animal	Interval
F0 Group 3 Male #21764	Day 42
F0 Group 2 Female #354	Lactation Day 19
F0 Group 4 Female #328	Lactation Day 19
F1 Group 3 Female #625-08	Gestation Day 6

5. Cannot verify that the F0 group 5 males received the proper test article dosing solution on Day 13 or the F1 group 4 females received the proper test article dosing solution on Day 96 since the test article label was not placed in the dosing records.
6. Post-dose observations were not performed within one-half to two hours following dosing for the following animals:

SLI Study No. 3472.4

Animals	Interval
F0 Animals in Group 3	Day 39
F0 Animals in Group 3-5	Day 42
F0 Females in Groups 1-5	Day 77
F0 Animals in Groups 4 and 5	Day 107
F0 Lactating Females in Group 1	Day 119
F1 Animals in Groups 1-5	Day 113
F1 Lactating Females in Groups 1-3	Day 114

7. Observations for initiation of parturition were not documented for F0 group 2 female #411 and group 5 females #308 and #627 on lactation day 0. Completion of parturition was not documented for F0 group 4 female #316 and F1 group 3 female #307-13 on lactation day 0.
8. A body weight was not recorded for group 5 pup #318-07 on lactation day 4 or group 4 pup #344-03 on lactation day 14 due to technical error.
9. A week 17 body weight or clinical observation was not recorded for F1 group 3 female #332-05 due to technical error.
10. The final stage of estrous was not determined for any of the F0 females on the day of scheduled euthanasia, as specified in the protocol.
11. The method of euthanasia was not documented at necropsy for F1 female #441-10.
12. Although not specifically required by protocol, broken incisors were saved as a gross lesion for F0 group 4 female #374, malaligned incisors were saved as a gross lesion for F0 group 4 female #328, and skin-scabbing was saved as a gross lesion for F0 group 4 male #21643.
13. Gross necropsy observations were inadvertently not recorded for F2 group 1 male pup #3900907 or F2 group 5 male pup #3191008 at scheduled euthanasia on lactation day 21.
14. The vagina and cervix of the following animals were inadvertently not retained in 10% neutral buffered formalin at necropsy:

SLI Study No. 3472.4

Interval	Animals
<u>Day 115</u>	F0 Group 1 Females #384 and #628 F0 Group 3 Female #307 F0 Group 4 Female #347 F0 Group 5 Females #337 and #626
<u>Day 117</u>	F0 Group 2 Females #312 and #430 F0 Group 4 Female #389 F0 Group 5 Female #395

15. Organ weights were recorded for females euthanized due to total litter loss (F0 group 2 female #339, F1 group 3 female #356-14 and F1 group 5 female #441-10); however, final body weights were not obtained for these females prior to euthanasia. The organ weights for these animals are maintained in the data records.
16. Sperm morphology was initially evaluated for F0 males in each study group rather than F0 males in the control and high-dose groups, as specified in the protocol.

SLI Study No. 3472.4

APPENDIX B

Certificate of Analysis (as Provided by the Sponsor)  
and Analytical Chemistry Results



SLI Study No. 3472.4

# CERTIFICATE OF ANALYSIS

Page 1 of 2

SPRINGBORN LABORATORIES  
419 647 4438  
PENNY KAPUT

PO NBR:

PRODUCT NUMBER: 22767-6

LOT NUMBER: 08516TQ

PRODUCT NAME: NICKEL(II) SULFATE HEXAHYDRATE, 99%,  
A.C.S. REAGENT

FORMULA:  $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ 

FORMULA WEIGHT: 262.84

APPEARANCE

BLUE-GREEN CRYSTALS

TITRATION

98.5% (COMPLEXOMETRIC)

ICP ASSAY

CONFIRMS NICKEL AND SULFUR COMPONENTS.

SUITABLE IDENTIFICATION IN LIEU OF XRAY.

INSOLUBLE MATTER

&lt;0.001% \*

SOLUBILITY

1 GM IN 7.5ML H<sub>2</sub>O: CLEAR, GREEN SOLUTION.

ACS TESTS

&lt;0.001% CO \*

CALCIUM

&lt;0.0001% \*

CHLORIDE

&lt;0.001% \*

COPPER

&lt;0.0001% \*

IRON

0.0006% \*

POTASSIUM

&lt;0.001% \*

MAGNESIUM

&lt;0.0001% \*

MANGANESE

&lt;0.0001% \*

CONTINUED ON NEXT PAGE

ALDRICH CHEMICAL COMPANY  
DAVID SWESSEL  
JULY 10, 1998



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SLI Study No. 3472.4

# CERTIFICATE OF ANALYSIS

Page 2 of 2

SPRINGBORN LABORATORIES  
419 647 4438  
PENNY KAPUT

PG NBR:

PRODUCT NUMBER: 22767-6

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PRODUCT NAME: NICKEL(II) SULFATE HEXAHYDRATE, 99%,  
A.C.S. REAGENT

FORMULA:  $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$

FORMULA WEIGHT: 262.84

CONTINUED FROM PREVIOUS PAGE

SODIUM

<0.001% \*

NITROGEN COMPOUNDS

<0.001% \*

\* SUPPLIER CERTIFICATE

ALDRICH CHEMICAL COMPANY  
DAVID SWESSEL  
JULY 10, 1998



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Appendix B  
 An Oral 2-Generation with Nickel Sulfate Hexahydrate Study in Rats  
 Results of Concentration Verification Analyses

Preparation/ Week No.	Preparation Date	Nominal Concentration (mg/mL NSH)	Actual Concentration (mg/mL NSH)	Percent Recovery	Average Percent Recovery
1/1	01/29/99	0	<LOQ (0.0002) <LOQ	-- --	--
		0.10	0.102 0.099	102.0 99.0	100.5
		0.25	0.246 0.240	98.4 96.0	97.2
		0.50	0.492 0.493	98.4 98.6	98.5
		1.00	0.968 0.977	96.8 97.7	97.3
3/7	03/12/99	0	<LOQ (0.00001) <LOQ	-- --	--
		0.10	0.099 0.101	99.0 101.0	100.0
		0.25	0.250 0.246	100.0 98.4	99.2
		0.50	0.507 0.499	101.4 99.8	100.6
		1.00	1.001 0.987	100.1 98.7	99.4

Note: LOQ = Limit of Quantitation, NSH = Nickel Sulfate Hexahydrate

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Appendix B  
 An Oral 2-Generation with Nickel Sulfate Hexahydrate Study in Rats  
 Results of Concentration Verification Analyses

Preparation/ Week No.	Preparation Date	Nominal Concentration (mg/mL NSH)	Actual Concentration (mg/mL NSH)	Percent Recovery	Average Percent Recovery
5/13	04/23/99	0	<LOQ (0.0002) <LOQ	-- --	--
		0.10	0.105 0.104	105.0 104.0	104.5
		0.25	0.248 0.251	99.2 100.4	99.8
		0.50	0.513 0.510	102.6 102.0	102.3
		1.00	1.041 1.074	104.1 107.4	105.8
7/19	06/04/99	0	<LOQ (0.00001) <LOQ	-- --	--
		0.10	0.097 0.102	97.0 102.0	99.5
		0.25	0.253 0.247	101.2 98.8	100.0
		0.50	0.509 0.497	101.8 99.4	100.6
		1.00	0.985 1.000	98.5 100.0	99.3

Note: LOQ = Limit of Quantitation, NSH = Nickel Sulfate Hexahydrate

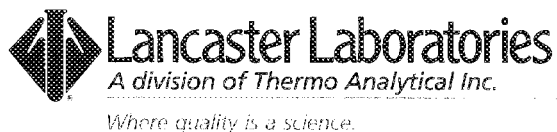
(220)

Appendix B  
 An Oral 2-Generation with Nickel Sulfate Hexahydrate Study in Rats  
 Results of Concentration Verification Analyses

Preparation/ Week No.	Preparation Date	Nominal Concentration (mg/mL NSH)	Actual Concentration (mg/mL NSH)	Percent Recovery	Average Percent Recovery
9/25	07/16/99	0	<LOQ (0.0002) <LOQ	-- --	--
		0.10	0.105 0.101	105.0 101.0	103.0
		0.25	0.250 0.255	100.0 102.0	101.0
		0.50	0.532 0.526	106.4 105.2	105.8
		1.00	1.075 1.072	107.5 107.2	107.4
11/31	08/27/99	0	<LOQ (0.0002) <LOQ	-- --	--
		0.10	0.100 0.100	100.0 100.0	100.0
		0.25	0.248 0.250	99.2 100.0	99.6
		0.50	0.519 0.524	103.8 104.8	104.3
		1.00	1.029 1.046	102.9 104.6	103.8

Note: LOQ = Limit of Quantitation, NSH = Nickel Sulfate Hexahydrate

(221)




### Quality Assurance Statement

Springborn Laboratories Study Number: 3472.4

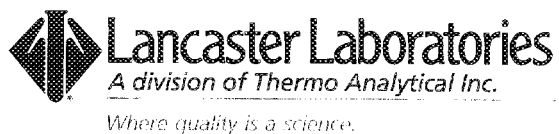
This study was inspected by the Lancaster Laboratories' Quality Assurance Unit on February 15, 1999. The inspection report was circulated to Lancaster Laboratories' management on February 26, 1999. The inspection reports were sent to the study director and study director management on March 1, 1999.

The analysis reports and raw data for Springborn Laboratories Study Number 3472.4 (Lancaster Laboratories sample numbers: 3190436-0437, 3195524-5533, 3209347, 3217735, 3222109-2118, and 3226049) were compared and audited for accuracy by the Lancaster Laboratories' Quality Assurance Unit on August 26, September 2, 15, and 17, October 1, and 25, November 13, and 24, 1999; and January 6, 2000.

  
Dorothy M. Love B.S.  
Quality Assurance Senior Specialist

2/28/00  
Date





### Quality Assurance Statement

Springborn Laboratories Study Number: **3472.4**

This study was inspected by the Lancaster Laboratories' Quality Assurance Unit on October 12, 1999. The inspection report was circulated to Lancaster Laboratories' management on November 29, 1999. The inspection report was sent to the study director and study director management on November 30, 1999.

The analysis reports and raw data for Springborn Laboratories Study Number 3472.4 (Lancaster Laboratories sample numbers: 3243894-95) were compared and audited for accuracy by the Lancaster Laboratories' Quality Assurance Unit on November 13, 16, 1999, and March 15, 2000.

David J. Weiser, M.S.  
Senior Chemist

3/27/00

Date



SLI Study No. 3472.4

APPENDIX C

Individual F0 Survival and Clinical Observations  
(Positive Findings)



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21621	M 0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21623	M 0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21625	M 0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21630	M 0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21636	M 0 MG/KG/DAY	NOSE/MOUTH	92	P INCISOR(S) - MISSING
		NOSE/MOUTH	92	P REDDISH COLOR MATERIAL - IN MOUTH.
		DEAD	106	P SCHEDULED EUTHANASIA
21638	M 0 MG/KG/DAY	NOSE/MOUTH	64	P BROKEN INCISOR(S)
		NOSE/MOUTH	71	P BROKEN INCISOR(S)
		NOSE/MOUTH	78	P BROKEN INCISOR(S)
		NOSE/MOUTH	85	P BROKEN INCISOR(S)
		DEAD	106	P SCHEDULED EUTHANASIA
21639	M 0 MG/KG/DAY	NOSE/MOUTH	99	P MALALIGNMENT
		DEAD	107	P SCHEDULED EUTHANASIA
21640	M 0 MG/KG/DAY	NOSE/MOUTH	57	P BROKEN INCISOR(S)
		DEAD	107	P SCHEDULED EUTHANASIA
21646	M 0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21647	M 0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21649	M 0 MG/KG/DAY	NOSE/MOUTH	15	P SCAB(S) - LEFT CORNER OF MOUTH
		DEAD	107	P SCHEDULED EUTHANASIA
21652	M 0 MG/KG/DAY	BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS
		BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21652	M 0 MG/KG/DAY	BODY	85	1 HAI RLOSS
		DEAD	107	P SCHEDULED EUTHANASIA
21656	M 0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21660	M 0 MG/KG/DAY	NOSE/MOUTH	99	P BROKEN INCISOR(S)
		DEAD	108	P SCHEDULED EUTHANASIA
21665	M 0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21673	M 0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21686	M 0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21688	M 0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21695	M 0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21703	M 0 MG/KG/DAY	BODY	22	1 HAI RLOSS
		BODY	29	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		DEAD	109	P SCHEDULED EUTHANASIA
21709	M 0 MG/KG/DAY	EXCRETA/EMESIS	57	P SOFT STOOLS
		EXCRETA/EMESIS	64	P SOFT STOOLS
		EXCRETA/EMESIS	92	P SOFT STOOLS
		DEAD	109	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21719	M 0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21721	M 0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21723	M 0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21729	M 0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21738	M 0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21739	M 0 MG/KG/DAY	NOSE/MOUTH	22	P SCAB(S) - LEFT SIDE OF NOSE
		NOSE/MOUTH	43	P DARK MATERIAL AROUND NOSE
		DEAD	110	P SCHEDULED EUTHANASIA
21761	M 0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21611	M 1.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21612	M 1.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21617	M 1.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21618	M 1.0 MG/KG/DAY	BODY	15	P SCAB (RIGHT SHOULDER)
		BODY	15	P SCAB(S) - LEFT SHOULDER
		BODY	22	P SCAB (RIGHT SHOULDER)
		BODY	22	P SCAB(S) - LEFT SHOULDER
		DEAD	106	P SCHEDULED EUTHANASIA
21620	M 1.0 MG/KG/DAY	BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		DEAD	106	P SCHEDULED EUTHANASIA
21631	M 1.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21633	M 1.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21641	M 1.0 MG/KG/DAY	BODY	8	1 HAIRLOSS
		BODY	15	P HAIRLOSS
		BODY	15	P SCAB(S) - RIGHT SIDE OF NECK
		BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21641	M 1.0 MG/KG/DAY	BODY	85	1 HAIRLOSS
		DEAD	107	P SCHEDULED EUTHANASIA
21644	M 1.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21657	M 1.0 MG/KG/DAY	BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		DEAD	64	P FOUND DEAD
21664	M 1.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21668	M 1.0 MG/KG/DAY	BODY	106	P RED AND SWOLLEN - PINNA(E)
		BODY	107	P RED AND SWOLLEN - PINNA(E)
		DEAD	107	P SCHEDULED EUTHANASIA
21679	M 1.0 MG/KG/DAY	NOSE/MOUTH	108	P BROKEN INCISOR(S)
		DEAD	108	P SCHEDULED EUTHANASIA
21681	M 1.0 MG/KG/DAY	OTHER	64	P UNDETERMINED AMOUNT OF TEST ARTICLE LOST DURING DOSING - EXPELLED FROM ANIMAL'S MOUTH.
21685	M 1.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	99	P INCISOR(S) - MISSING
		BODY	106	1 HAIRLOSS
		NOSE/MOUTH	106	P BROKEN INCISOR(S)
		BODY	108	1 HAIRLOSS
21689	M 1.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21690	M 1.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21705	M 1.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	81	P INCISOR(S) - MISSING
		NOSE/MOUTH	85	P BROKEN INCISOR(S)
		DEAD	109	P SCHEDULED EUTHANASIA
21713	M 1.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21714	M 1.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21717	M 1.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21735	M 1.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21736	M 1.0 MG/KG/DAY	BODY	8	P SCAB (RIGHT SHOULDER)
		BODY	8	P SCAB(S) - LEFT SHOULDER
		BODY	15	P SCAB (RIGHT SHOULDER)
		BODY	15	P SCAB(S) - LEFT SHOULDER
		BODY	22	P SCAB (RIGHT SHOULDER)
		BODY	22	P SCAB(S) - LEFT SHOULDER
		BODY	43	P SCAB(S) - LEFT SHOULDER
		BODY	50	P SCAB(S) - LEFT SHOULDER
		BODY	57	P SCAB(S) - LEFT SHOULDER
		DEAD	110	P SCHEDULED EUTHANASIA
21737	M 1.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21741	M 1.0 MG/KG/DAY	BODY	50	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		DEAD	110	P SCHEDULED EUTHANASIA
21748	M 1.0 MG/KG/DAY	BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS
		BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		DEAD	110	P SCHEDULED EUTHANASIA
21749	M 1.0 MG/KG/DAY	BODY	106	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		DEAD	110	P SCHEDULED EUTHANASIA
21757	M 1.0 MG/KG/DAY	BODY	15	P HAIRLOSS
		BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21757	M 1.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		EYES	57	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	57	P MALALIGNMENT
		NOSE/MOUTH	64	P MALALIGNMENT
		EYES	64	P DARK MATERIAL AROUND EYE(S)
		EYES	71	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	71	P BROKEN INCISOR(S)
		NOSE/MOUTH	71	P MALALIGNMENT
		EYES	78	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	78	P MALALIGNMENT
		EYES	85	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	85	P MALALIGNMENT
		NOSE/MOUTH	85	P INCISOR(S) - TRIMMED
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		EYES	106	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106	P BROKEN INCISOR(S)
		NOSE/MOUTH	110	P BROKEN INCISOR(S)
		DEAD	110	P SCHEDULED EUTHANASIA
21613	M 2.5 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21624	M 2.5 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21632	M 2.5 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21650	M 2.5 MG/KG/DAY	BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		DEAD	106	P SCHEDULED EUTHANASIA
21658	M 2.5 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21659	M 2.5 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21662	M 2.5 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21663	M 2.5 MG/KG/DAY	EYES	50	P REDDENED EYELID(S)

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

( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21663	M 2.5 MG/KG/DAY	EYES	57	P DARK MATERIAL AROUND EYE(S)
		EYES	64	P DARK MATERIAL AROUND EYE(S)
		EYES	71	P DARK MATERIAL AROUND EYE(S)
21669	M 2.5 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21671	M 2.5 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21682	M 2.5 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	107	P BROKEN INCISOR(S)
		NOSE/MOUTH	107	P MALALIGNMENT
		NOSE/MOUTH	107	P REDDISH COLOR MATERIAL - IN MOUTH.
		DEAD	107	P SCHEDULED EUTHANASIA
21691	M 2.5 MG/KG/DAY	BODY	15	P HAIRLOSS
		BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS
		BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
21696	M 2.5 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21698	M 2.5 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21698	M 2.5 MG/KG/DAY	BODY	71	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
21699	M 2.5 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	15	P SCAB(S) - RIGHT CORNER OF MOUTH
		DEAD	108	P SCHEDULED EUTHANASIA
21701	M 2.5 MG/KG/DAY	BODY	15	P HAI RLOSS
		BODY	22	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
21706	M 2.5 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
		BODY	22	1 HAI RLOSS
		BODY	29	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		BODY	50	1 HAI RLOSS
		DEAD	109	P SCHEDULED EUTHANASIA
21708	M 2.5 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21718	M 2.5 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21722	M 2.5 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21732	M 2.5 MG/KG/DAY	BODY	15	P HAI RLOSS
		BODY	22	1 HAI RLOSS

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21732	M 2.5 MG/KG/DAY	BODY	29	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		DEAD	109	P SCHEDULED EUTHANASIA
21734	M 2.5 MG/KG/DAY	NOSE/MOUTH	109	P BROKEN INCISOR(S)
		DEAD	109	P SCHEDULED EUTHANASIA
21744	M 2.5 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21751	M 2.5 MG/KG/DAY	BODY	29	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		DEAD	110	P SCHEDULED EUTHANASIA
21755	M 2.5 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21762	M 2.5 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21763	M 2.5 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21764	M 2.5 MG/KG/DAY	NOSE/MOUTH	106	P INCISOR(S) - MISSING
		NOSE/MOUTH	110	P INCISOR(S) - MISSING
		DEAD	110	P SCHEDULED EUTHANASIA
21616	M 5.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21619	M 5.0 MG/KG/DAY	EYES	64	P DARK MATERIAL AROUND EYE(S)
		EYES	71	P DARK MATERIAL AROUND EYE(S)
		DEAD	106	P SCHEDULED EUTHANASIA
21634	M 5.0 MG/KG/DAY	NOSE/MOUTH	78	P DARK MATERIAL AROUND NOSE
		BODY	85	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21634	M 5.0 MG/KG/DAY	BODY	92	1 HAIRLOSS
		NOSE/MOUTH	99	P BROKEN INCISOR(S)
		BODY	106	1 HAIRLOSS
		DEAD	106	P SCHEDULED EUTHANASIA
21635	M 5.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21637	M 5.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21642	M 5.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21643	M 5.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21645	M 5.0 MG/KG/DAY	BODY	107	1 URINE STAIN
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107	P DARK MATERIAL AROUND MOUTH
		DEAD	107	P SCHEDULED EUTHANASIA
		DEAD	107	P SCHEDULED EUTHANASIA
21651	M 5.0 MG/KG/DAY	ACTIVITY	76	P RALES
21654	M 5.0 MG/KG/DAY	NOSE/MOUTH	76	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	76	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	78	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	78	P DARK MATERIAL AROUND MOUTH
		BODY	78	1 URINE STAIN
		BODY	78	P SWELLING - RIGHT LATERAL THORACIC
		ACTIVITY	78	P RALES
		EXCRETA/EMESIS	78	P FEW FECES
		BODY	78	P DEHYDRATION
		NOSE/MOUTH	78	P SALIVATION
		ACTIVITY	78	P LIMPING - RIGHT FORELIMB.
		NOSE/MOUTH	78	P REDDISH COLOR MATERIAL - IN MOUTH.
		OTHER	78	P TISSUE IN SYRINGE AFTER ORAL DOSING PERFORMED
		DEAD	81	P FOUND DEAD
21661	M 5.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21666	M 5.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21672	M 5.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21674	M 5.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21677	M 5.0 MG/KG/DAY	NOSE/MOUTH	99	P MALALIGNMENT
		NOSE/MOUTH	106	P MALALIGNMENT
		DEAD	108	P SCHEDULED EUTHANASIA
21680	M 5.0 MG/KG/DAY	BODY	15	P HAIRLOSS
		BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS
		DEAD	108	P SCHEDULED EUTHANASIA
21684	M 5.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21687	M 5.0 MG/KG/DAY	BODY	22	1 HAIRLOSS
		BODY	29	1 HAIRLOSS
		BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
21694	M 5.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21702	M 5.0 MG/KG/DAY	NOSE/MOUTH	106	P SCHEDULED EUTHANASIA
		DEAD	109	P BROKEN INCISOR(S)
21704	M 5.0 MG/KG/DAY	NOSE/MOUTH	8	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	92	P SCAB(S) - RIGHT CORNER OF MOUTH 1.0 CM X 0.5 CM X 0.5 CM
		EYES	92	P RAISED AREA - LEFT CORNER OF MOUTH 1.0 CM X 0.5 CM X 0.5 CM
		NOSE/MOUTH	99	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	99	P RAISED AREA - LEFT CORNER OF MOUTH 1.0 CM X 0.5 CM X 0.5 CM

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21704	M 5.0 MG/KG/DAY	NOSE/MOUTH	106	P SCAB(S) - LEFT CORNER OF MOUTH
		NOSE/MOUTH	109	P SCAB(S) - LEFT CORNER OF MOUTH
		DEAD	109	P SCHEDULED EUTHANASIA
21711	M 5.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21725	M 5.0 MG/KG/DAY	NOSE/MOUTH	8	P SCAB(S) - RIGHT CORNER OF MOUTH
		DEAD	110	P SCHEDULED EUTHANASIA
21728	M 5.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21743	M 5.0 MG/KG/DAY	BODY	22	1 HAI RLOSS
		BODY	29	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
21750	M 5.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
		BODY	15	P HAI RLOSS
		BODY	22	1 HAI RLOSS
		BODY	29	1 HAI RLOSS
21759	M 5.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21765	M 5.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21614	M 10.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21627	M 10.0 MG/KG/DAY	NOSE/MOUTH	22	P DARK MATERIAL AROUND NOSE
		DEAD	106	P SCHEDULED EUTHANASIA
21628	M 10.0 MG/KG/DAY	BODY	29	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21628	M 10.0 MG/KG/DAY	BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		NOSE/MOUTH	106	P BROKEN INCISOR(S)
		DEAD	106	P SCHEDULED EUTHANASIA
21629	M 10.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21648	M 10.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21667	M 10.0 MG/KG/DAY	DEAD	106	P SCHEDULED EUTHANASIA
21670	M 10.0 MG/KG/DAY	BODY	106	P RED AND SWOLLEN - PINNA(E)
		DEAD	107	P SCHEDULED EUTHANASIA
21676	M 10.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21683	M 10.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21692	M 10.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21693	M 10.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21707	M 10.0 MG/KG/DAY	DEAD	107	P SCHEDULED EUTHANASIA
21710	M 10.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21715	M 10.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21716	M 10.0 MG/KG/DAY	NOSE/MOUTH	71	P BROKEN INCISOR(S)
		DEAD	108	P SCHEDULED EUTHANASIA
21720	M 10.0 MG/KG/DAY	DEAD	108	P SCHEDULED EUTHANASIA
21724	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21726	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21727	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21730	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21740	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21745	M 10.0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA
21746	M 10.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX C  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
21752	M 10.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21754	M 10.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21756	M 10.0 MG/KG/DAY	DEAD	110	P SCHEDULED EUTHANASIA
21758	M 10.0 MG/KG/DAY	POST-DOSE OBS BODY	50	P SALIVATION
		BODY	57	1 HAIRLOSS
		DEAD	110	P SCHEDULED EUTHANASIA
21760	M 10.0 MG/KG/DAY	BODY	50	P REDDISH UROGENITAL STAINING
		DEAD	110	P SCHEDULED EUTHANASIA

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
306	F 0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
311	F 0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
317	F 0 MG/KG/DAY	BODY	43	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	79	1 HAI RLOSS
		BODY	80	1 HAI RLOSS
		BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
317 F 0 MG/KG/DAY	0 MG/KG/DAY	BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
BODY	120	1 HAIRLOSS		
BODY	121	1 HAIRLOSS		
BODY	122	1 HAIRLOSS		
321 F 0 MG/KG/DAY	0 MG/KG/DAY	DEAD	122	P SCHEDULED EUTHANASIA
323 F 0 MG/KG/DAY	0 MG/KG/DAY	NOSE/MOUTH	115	P SCHEDULED EUTHANASIA
341 F 0 MG/KG/DAY	0 MG/KG/DAY	DEAD	76	P DARK MATERIAL AROUND NOSE
		ACTIVITY	118	P SCHEDULED EUTHANASIA
		ACTIVITY	104	P OVERT AGGRESSIVENESS
		ACTIVITY	105	P OVERT AGGRESSIVENESS
		ACTIVITY	106	P OVERT AGGRESSIVENESS

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
341	F 0 MG/KG/DAY	ACTIVITY	107	P OVERT AGGRESSIVENESS
		DEAD	107	P UNSCHEDULED EUTHANASIA - EXCESSIVE AGGRESSIVENESS
345	F 0 MG/KG/DAY	OTHER	73	P UNDETERMINED AMOUNT OF DOSE EXPELLED DURING DOSING FROM ANIMALS MOUTH.
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		DEAD	118	P SCHEDULED EUTHANASIA
348	F 0 MG/KG/DAY	NOSE/MOUTH	88	P REDDISH NASAL DISCHARGE
		DEAD	115	P SCHEDULED EUTHANASIA
353	F 0 MG/KG/DAY	NOSE/MOUTH	71	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	106	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	108	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	109	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	111	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	112	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	113	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	114	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	115	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	116	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	117	P DARK MATERIAL AROUND NOSE
		DEAD	118	P SCHEDULED EUTHANASIA
355	F 0 MG/KG/DAY	OTHER	73	P UNDETERMINED AMOUNT OF DOSE EXPELLED DURING DOSING FROM ANIMALS MOUTH.
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		DEAD	117	P SCHEDULED EUTHANASIA
369	F 0 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
371	F 0 MG/KG/DAY	NOSE/MOUTH	8	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	106	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
371	F 0 MG/KG/DAY	NOSE/MOUTH	116	P DARK MATERIAL AROUND MOUTH
		DEAD	117	P SCHEDULED EUTHANASIA
380	F 0 MG/KG/DAY	BODY	76	P SCAB(S) - LEFT HINDLIMB
		BODY	77	P SCAB(S) - LEFT HINDLIMB
		DEAD	118	P SCHEDULED EUTHANASIA
383	F 0 MG/KG/DAY	BODY	64	1 HAIRLOSS
		DEAD	109	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
384	F 0 MG/KG/DAY	DEAD	115	P SCHEDULED EUTHANASIA
387	F 0 MG/KG/DAY	DEAD	98	P SCHEDULED EUTHANASIA - GESTATION DAY 25
388	F 0 MG/KG/DAY	EXCRETA/EMESIS	96	P REDDISH COLORED VAGINAL DISCHARGE
		DEAD	116	P SCHEDULED EUTHANASIA
390	F 0 MG/KG/DAY	OTHER	73	P UNDETERMINED AMOUNT OF DOSE EXPELLED DURING DOSING FROM ANIMALS MOUTH
		DEAD	117	P SCHEDULED EUTHANASIA
400	F 0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
403	F 0 MG/KG/DAY	NOSE/MOUTH	92	P INCISOR(S) MISSING
		NOSE/MOUTH	93	P INCISOR(S) MISSING
		NOSE/MOUTH	94	P INCISOR(S) BROKEN
		NOSE/MOUTH	95	P INCISOR(S) BROKEN
		NOSE/MOUTH	96	P INCISOR(S) BROKEN
		NOSE/MOUTH	97	P INCISOR(S) BROKEN
		NOSE/MOUTH	98	P INCISOR(S) BROKEN
		NOSE/MOUTH	99	P INCISOR(S) BROKEN
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
408	F 0 MG/KG/DAY	DEAD	115	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA
420	F 0 MG/KG/DAY	BODY	64	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
420	F 0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
425	F 0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
426	F 0 MG/KG/DAY	DEAD	115	P SCHEDULED EUTHANASIA
427	F 0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
449	F 0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
450	F 0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
628	F 0 MG/KG/DAY	NOSE/MOUTH	82	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	83	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	84	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	84	P INCISOR(S) BROKEN
		NOSE/MOUTH	84	P MALALIGNMENT
		NOSE/MOUTH	85	P MALALIGNMENT
		NOSE/MOUTH	85	P INCISOR(S) BROKEN
		NOSE/MOUTH	85	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	86	P MALALIGNMENT
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	87	P MALALIGNMENT
		NOSE/MOUTH	87	P INCISOR(S) BROKEN
		NOSE/MOUTH	87	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	88	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	89	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	90	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	91	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	92	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	93	P INCISOR(S) BROKEN

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

( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS		
628 F	0 MG/KG/DAY	NOSE/MOUTH	94	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	94	P INCISOR(S) BROKEN		
		NOSE/MOUTH	95	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	96	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	97	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	98	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	99	P SCAB(S) - AROUND MOUTH		
		NOSE/MOUTH	100	P SCAB(S) - AROUND MOUTH		
		DEAD	115	P SCHEDULED EUTHANASIA		
		310 F	1.0 MG/KG/DAY	BODY	64	1 HAIRLOSS
				BODY	71	1 HAIRLOSS
BODY	74			1 HAIRLOSS		
BODY	75			1 HAIRLOSS		
BODY	76			1 HAIRLOSS		
BODY	77			1 HAIRLOSS		
BODY	78			1 HAIRLOSS		
BODY	79			1 HAIRLOSS		
BODY	80			1 HAIRLOSS		
BODY	81			1 HAIRLOSS		
BODY	82			1 HAIRLOSS		
BODY	83	1 HAIRLOSS				
BODY	84	1 HAIRLOSS				
BODY	85	1 HAIRLOSS				
BODY	86	1 HAIRLOSS				
BODY	87	1 HAIRLOSS				
BODY	88	1 HAIRLOSS				
BODY	89	1 HAIRLOSS				
BODY	90	1 HAIRLOSS				
BODY	91	1 HAIRLOSS				

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
310 F	1.0 MG/KG/DAY	BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
312 F	1.0 MG/KG/DAY	BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
313	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
314	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
324	F 1.0 MG/KG/DAY	NOSE/MOUTH	72	P MALALIGNMENT
		NOSE/MOUTH	73	P MALALIGNMENT
		NOSE/MOUTH	74	P MALALIGNMENT
		NOSE/MOUTH	75	P MALALIGNMENT
		NOSE/MOUTH	76	P MALALIGNMENT
		NOSE/MOUTH	77	P MALALIGNMENT
		NOSE/MOUTH	78	P MALALIGNMENT
		NOSE/MOUTH	79	P MALALIGNMENT
		NOSE/MOUTH	80	P MALALIGNMENT
		NOSE/MOUTH	81	P MALALIGNMENT
		NOSE/MOUTH	82	P MALALIGNMENT
		NOSE/MOUTH	83	P MALALIGNMENT
		NOSE/MOUTH	84	P MALALIGNMENT
		NOSE/MOUTH	85	P MALALIGNMENT
		NOSE/MOUTH	86	P MALALIGNMENT
		NOSE/MOUTH	87	P MALALIGNMENT
		NOSE/MOUTH	88	P MALALIGNMENT
		NOSE/MOUTH	89	P MALALIGNMENT
		NOSE/MOUTH	90	P MALALIGNMENT
		NOSE/MOUTH	91	P MALALIGNMENT
		NOSE/MOUTH	92	P MALALIGNMENT
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
325	F 1.0 MG/KG/DAY	BODY	43	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
325	F	1.0 MG/KG/DAY	57	1 HAIRLOSS
			64	1 HAIRLOSS
			73	1 HAIRLOSS
			74	1 HAIRLOSS
			75	1 HAIRLOSS
			76	1 HAIRLOSS
			77	1 HAIRLOSS
			78	1 HAIRLOSS
			79	1 HAIRLOSS
			80	1 HAIRLOSS
			81	1 HAIRLOSS
			82	1 HAIRLOSS
			83	1 HAIRLOSS
			84	1 HAIRLOSS
			85	1 HAIRLOSS
			86	1 HAIRLOSS
			87	1 HAIRLOSS
			88	1 HAIRLOSS
			89	1 HAIRLOSS
			90	1 HAIRLOSS
			91	1 HAIRLOSS
			92	1 HAIRLOSS
			93	1 HAIRLOSS
			94	1 HAIRLOSS
			95	1 HAIRLOSS
			96	1 HAIRLOSS
			97	1 HAIRLOSS
			98	1 HAIRLOSS
			99	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
325	F 1.0 MG/KG/DAY	BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
329	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		POST-DOSE OBS	117	P DARK MATERIAL AROUND EYE(S)
		DEAD	118	P SCHEDULED EUTHANASIA
339	F 1.0 MG/KG/DAY	DEAD	97	P SCHEDULED EUTHANASIA - TOTAL LITTER LOSS
354	F 1.0 MG/KG/DAY	NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		NOSE/MOUTH	94	P INCISOR(S) BROKEN
		NOSE/MOUTH	95	P INCISOR(S) BROKEN
		NOSE/MOUTH	96	P INCISOR(S) BROKEN

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



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
354	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
363	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
370	F 1.0 MG/KG/DAY	DEAD	98	P SCHEDULED EUTHANASIA - GESTATION DAY 25
377	F 1.0 MG/KG/DAY	NOSE/MOUTH	64	P DARK MATERIAL AROUND NOSE
		BODY	71	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
		BODY	80	1 HAIRLOSS
		BODY	81	1 HAIRLOSS
		BODY	82	1 HAIRLOSS
		BODY	83	1 HAIRLOSS
		BODY	84	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
377	F 1.0 MG/KG/DAY	BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
BODY	115	1 HAIRLOSS		
BODY	116	1 HAIRLOSS		
BODY	117	1 HAIRLOSS		
BODY	118	1 HAIRLOSS		
397	F 1.0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	88	P MALALIGNMENT
		NOSE/MOUTH	89	P MALALIGNMENT
		NOSE/MOUTH	90	P MALALIGNMENT
		NOSE/MOUTH	91	P MALALIGNMENT
		NOSE/MOUTH	92	P MALALIGNMENT
		NOSE/MOUTH	93	P MALALIGNMENT

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
397 F	1.0 MG/KG/DAY	NOSE/MOUTH	94	P MALALIGNMENT
		NOSE/MOUTH	95	P MALALIGNMENT
		NOSE/MOUTH	96	P MALALIGNMENT
		NOSE/MOUTH	97	P MALALIGNMENT
		NOSE/MOUTH	98	P MALALIGNMENT
		NOSE/MOUTH	99	P MALALIGNMENT
		NOSE/MOUTH	100	P MALALIGNMENT
		NOSE/MOUTH	101	P MALALIGNMENT
		NOSE/MOUTH	102	P MALALIGNMENT
		NOSE/MOUTH	103	P MALALIGNMENT
		NOSE/MOUTH	104	P MALALIGNMENT
		NOSE/MOUTH	105	P MALALIGNMENT
		NOSE/MOUTH	106	P MALALIGNMENT
		NOSE/MOUTH	107	P MALALIGNMENT
		NOSE/MOUTH	108	P MALALIGNMENT
		NOSE/MOUTH	109	P MALALIGNMENT
		NOSE/MOUTH	110	P MALALIGNMENT
		406 F	1.0 MG/KG/DAY	NOSE/MOUTH
NOSE/MOUTH	112			P MALALIGNMENT
NOSE/MOUTH	113			P MALALIGNMENT
NOSE/MOUTH	114			P MALALIGNMENT
NOSE/MOUTH	115			P MALALIGNMENT
NOSE/MOUTH	115			P INCISOR(S) BROKEN
NOSE/MOUTH	116			P INCISOR(S) BROKEN
NOSE/MOUTH	117			P INCISOR(S) BROKEN
DEAD	117			P SCHEDULED EUTHANASIA
NOSE/MOUTH	107			P DARK MATERIAL AROUND NOSE
NOSE/MOUTH	108	P DARK MATERIAL AROUND NOSE		
DEAD	118	P SCHEDULED EUTHANASIA		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
409	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
411	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	109	P DARK MATERIAL AROUND MOUTH
		DEAD	114	P SCHEDULED EUTHANASIA
413	F 1.0 MG/KG/DAY	NOSE/MOUTH	97	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	99	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		DEAD	118	P SCHEDULED EUTHANASIA
419	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
422	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	108	P REDDENED EYELID(S)
		EYES	109	P REDDENED EYELID(S)
		EYES	110	P REDDENED EYELID(S)
		DEAD	118	P SCHEDULED EUTHANASIA
423	F 1.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
428	F 1.0 MG/KG/DAY	EYES	8	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	22	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	29	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	36	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	57	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	64	P MALPOSITIONED PUPIL - RIGHT EYE
		BODY	71	1 HAIRLOSS
		EYES	71	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	73	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	74	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	75	P MALPOSITIONED PUPIL - RIGHT EYE

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
428	F 1.0 MG/KG/DAY	EYES	76	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	77	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	78	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	79	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	80	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	81	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	82	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	83	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	84	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	85	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	86	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	87	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	88	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	89	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	90	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	91	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	92	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	93	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	94	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	95	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	96	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	97	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	98	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	99	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	100	P MALPOSITIONED PUPIL - RIGHT EYE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	101	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	102	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	103	P MALPOSITIONED PUPIL - RIGHT EYE

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
428	F 1.0 MG/KG/DAY	EYES	104	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	105	P MALPOSITIONED PUPIL - RIGHT EYE
		BODY	106	1 HAIRLOSS
		EYES	106	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	107	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	108	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	109	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	110	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	111	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	112	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	113	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	114	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	115	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	116	P MALPOSITIONED PUPIL - RIGHT EYE
		EYES	116	P SCHEDULED EUTHANASIA
		429	F 1.0 MG/KG/DAY	EYES
EYES	73			P DARK MATERIAL AROUND EYE(S)
EYES	74			P DARK MATERIAL AROUND EYE(S)
EYES	75			P DARK MATERIAL AROUND EYE(S)
EYES	76			P DARK MATERIAL AROUND EYE(S)
EYES	77			P DARK MATERIAL AROUND EYE(S)
EYES	78			P DARK MATERIAL AROUND EYE(S)
EYES	79			P DARK MATERIAL AROUND EYE(S)
EYES	80			P DARK MATERIAL AROUND EYE(S)
EYES	81			P DARK MATERIAL AROUND EYE(S)
EYES	82			P DARK MATERIAL AROUND EYE(S)
EYES	83			P DARK MATERIAL AROUND EYE(S)
EYES	84			P DARK MATERIAL AROUND EYE(S)
EYES	85			P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
429	F 1.0 MG/KG/DAY	EYES	86	P DARK MATERIAL AROUND EYE(S)
		EYES	87	P DARK MATERIAL AROUND EYE(S)
		EYES	88	P DARK MATERIAL AROUND EYE(S)
		EYES	89	P DARK MATERIAL AROUND EYE(S)
		EYES	90	P DARK MATERIAL AROUND EYE(S)
		EYES	91	P DARK MATERIAL AROUND EYE(S)
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		EYES	95	P DARK MATERIAL AROUND EYE(S)
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		EYES	98	P DARK MATERIAL AROUND EYE(S)
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		EYES	102	P DARK MATERIAL AROUND EYE(S)
		EYES	103	P DARK MATERIAL AROUND EYE(S)
		EYES	104	P DARK MATERIAL AROUND EYE(S)
		EYES	106	P DARK MATERIAL AROUND EYE(S)
		EYES	107	P DARK MATERIAL AROUND EYE(S)
		EYES	108	P DARK MATERIAL AROUND EYE(S)
		EYES	109	P DARK MATERIAL AROUND EYE(S)
		EYES	110	P DARK MATERIAL AROUND EYE(S)
		EYES	111	P DARK MATERIAL AROUND EYE(S)
		EYES	112	P DARK MATERIAL AROUND EYE(S)
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		EYES	114	P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
429	F 1.0 MG/KG/DAY	EYES	115	P DARK MATERIAL AROUND EYE(S)
		EYES	116	P DARK MATERIAL AROUND EYE(S)
430	F 1.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA
431	F 1.0 MG/KG/DAY	EYES	25	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	25	P REDDISH NASAL DISCHARGE
		NOSE/MOUTH	25	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	25	P DARK MATERIAL AROUND MOUTH
		EXCRETA/EMESIS	25	P MALALIGNMENT
		NOSE/MOUTH	25	P REDDISH COLORED MATERIAL IN CAGE/TRAY
		EYES	29	P SWELLING - NOSE AREA
		NOSE/MOUTH	36	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	57	P INCISOR(S) TRIMMED
		NOSE/MOUTH	72	P INCISOR(S) BROKEN
		NOSE/MOUTH	73	P INCISOR(S) BROKEN
		NOSE/MOUTH	74	P INCISOR(S) BROKEN
		NOSE/MOUTH	75	P INCISOR(S) BROKEN
		NOSE/MOUTH	75	P INCISOR(S) TRIMMED
		NOSE/MOUTH	76	P INCISOR(S) BROKEN
		NOSE/MOUTH	77	P INCISOR(S) BROKEN
		NOSE/MOUTH	78	P INCISOR(S) BROKEN
		NOSE/MOUTH	79	P INCISOR(S) BROKEN
		NOSE/MOUTH	80	P INCISOR(S) BROKEN
		NOSE/MOUTH	81	P INCISOR(S) BROKEN
		NOSE/MOUTH	82	P INCISOR(S) BROKEN
		NOSE/MOUTH	83	P INCISOR(S) BROKEN
		NOSE/MOUTH	84	P INCISOR(S) TRIMMED

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



APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
431	F 1.0 MG/KG/DAY	NOSE/MOUTH	84	P INCISOR(S) BROKEN
		NOSE/MOUTH	84	P MALALIGNMENT
		NOSE/MOUTH	85	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		NOSE/MOUTH	87	P INCISOR(S) BROKEN
		NOSE/MOUTH	88	P INCISOR(S) BROKEN
		NOSE/MOUTH	89	P INCISOR(S) BROKEN
		NOSE/MOUTH	90	P INCISOR(S) BROKEN
		NOSE/MOUTH	91	P INCISOR(S) BROKEN
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		NOSE/MOUTH	94	P INCISOR(S) MISSING
		NOSE/MOUTH	95	P INCISOR(S) MISSING
		NOSE/MOUTH	96	P INCISOR(S) MISSING
		NOSE/MOUTH	97	P INCISOR(S) MISSING
		NOSE/MOUTH	98	P INCISOR(S) TRIMMED
		NOSE/MOUTH	99	P INCISOR(S) MISSING
		NOSE/MOUTH	100	P INCISOR(S) MISSING
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	103	P INCISOR(S) MISSING
		NOSE/MOUTH	104	P INCISOR(S) MISSING
		NOSE/MOUTH	105	P INCISOR(S) MISSING
		NOSE/MOUTH	106	P INCISOR(S) MISSING
		NOSE/MOUTH	107	P INCISOR(S) MISSING
		NOSE/MOUTH	108	P INCISOR(S) TRIMMED
		NOSE/MOUTH	108	P INCISOR(S) MISSING
		NOSE/MOUTH	109	P INCISOR(S) MISSING
		NOSE/MOUTH	110	P INCISOR(S) MISSING

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
431	F 1.0 MG/KG/DAY	NOSE/MOUTH	111	P INCISOR(S) MISSING
		NOSE/MOUTH	112	P INCISOR(S) MISSING
		NOSE/MOUTH	113	P INCISOR(S) MISSING
		NOSE/MOUTH	114	P INCISOR(S) MISSING
		NOSE/MOUTH	115	P INCISOR(S) BROKEN
		NOSE/MOUTH	115	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
433	F 1.0 MG/KG/DAY	DEAD	97	P SCHEDULED EUTHANASIA - GESTATION DAY 25
440	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	106	1 HAIRLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
447	F 1.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
629	F 1.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	73	1 HAIRLOSS
		BODY	74	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
		BODY	80	1 HAIRLOSS
		BODY	81	1 HAIRLOSS
		BODY	82	1 HAIRLOSS
		BODY	83	1 HAIRLOSS
		BODY	84	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
629	F	1.0 MG/KG/DAY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
629	F 1.0 MG/KG/DAY	BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
304	F 2.5 MG/KG/DAY	NOSE/MOUTH	50	P MALALIGNMENT
		NOSE/MOUTH	50	P DARK MATERIAL AROUND NOSE
		EYES	50	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	85	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		NOSE/MOUTH	87	P INCISOR(S) BROKEN
		NOSE/MOUTH	88	P INCISOR(S) BROKEN
		NOSE/MOUTH	89	P INCISOR(S) BROKEN
		NOSE/MOUTH	90	P INCISOR(S) BROKEN
		NOSE/MOUTH	91	P INCISOR(S) BROKEN
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		NOSE/MOUTH	94	P INCISOR(S) BROKEN
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	95	P INCISOR(S) BROKEN
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	96	P INCISOR(S) BROKEN
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	97	P INCISOR(S) BROKEN
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	101	P INCISOR(S) BROKEN

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
304	F 2.5 MG/KG/DAY	EYES		102	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH		102	P INCISOR(S) BROKEN
		EYES		103	P DARK MATERIAL AROUND EYE(S)
		EYES		104	P DARK MATERIAL AROUND EYE(S)
		EYES		105	P DARK MATERIAL AROUND EYE(S)
		EYES		107	P DARK MATERIAL AROUND EYE(S)
		EYES		108	P DARK MATERIAL AROUND EYE(S)
		BODY		109	P TAIL DISCOLORATION - BLUE
		EYES		109	P DARK MATERIAL AROUND EYE(S)
		BODY		110	P TAIL DISCOLORATION - BLUE
		EYES		110	P DARK MATERIAL AROUND EYE(S)
		BODY		111	P TAIL DISCOLORATION - BLUE
		EYES		111	P DARK MATERIAL AROUND EYE(S)
		BODY		112	P TAIL DISCOLORATION - BLUE
		EYES		112	P DARK MATERIAL AROUND EYE(S)
		307	F 2.5 MG/KG/DAY	BODY	
EYES				113	P DARK MATERIAL AROUND EYE(S)
BODY				114	P TAIL DISCOLORATION - BLUE
EYES				114	P DARK MATERIAL AROUND EYE(S)
BODY				115	P TAIL DISCOLORATION - BLUE
EYES				115	P DARK MATERIAL AROUND EYE(S)
BODY				116	P TAIL DISCOLORATION - BLUE
EYES				116	P DARK MATERIAL AROUND EYE(S)
DEAD				116	P SCHEDULED EUTHANASIA
BODY				105	1 HAIRLOSS
DEAD				115	P SCHEDULED EUTHANASIA
BODY				76	P RED AND SWOLLEN PINNA(E)
BODY				77	P RED AND SWOLLEN PINNA(E)
BODY				78	P RED AND SWOLLEN PINNA(E)

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
332	F	2.5 MG/KG/DAY	79	P RED AND SWOLLEN PINNA(E)
			80	P RED AND SWOLLEN PINNA(E)
			81	P RED AND SWOLLEN PINNA(E)
			82	P RED AND SWOLLEN PINNA(E)
			88	P RED AND SWOLLEN PINNA(E)
			89	P RED AND SWOLLEN PINNA(E)
			90	P RED AND SWOLLEN PINNA(E)
			91	P RED AND SWOLLEN PINNA(E)
			92	P RED AND SWOLLEN PINNA(E)
			93	P RED AND SWOLLEN PINNA(E)
			94	P RED AND SWOLLEN PINNA(E)
			95	P RED AND SWOLLEN PINNA(E)
			96	P RED AND SWOLLEN PINNA(E)
			97	P RED AND SWOLLEN PINNA(E)
			98	P RED AND SWOLLEN PINNA(E)
			99	P RED AND SWOLLEN PINNA(E)
			100	P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
			101	P RED AND SWOLLEN PINNA(E)
			102	P RED AND SWOLLEN PINNA(E)
			103	P RED AND SWOLLEN PINNA(E)
			104	P RED AND SWOLLEN PINNA(E)
			105	P RED AND SWOLLEN PINNA(E)
			106	P RED AND SWOLLEN PINNA(E)
			107	P RED AND SWOLLEN PINNA(E)
			108	P RED AND SWOLLEN PINNA(E)
			109	P RED AND SWOLLEN PINNA(E)
			110	P RED AND SWOLLEN PINNA(E)
			111	P RED AND SWOLLEN PINNA(E)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
332	F 2.5 MG/KG/DAY	BODY	112	P RED AND SWOLLEN PINNA(E)
		BODY	113	P RED AND SWOLLEN PINNA(E)
		BODY	114	P RED AND SWOLLEN PINNA(E)
		BODY	115	P RED AND SWOLLEN PINNA(E)
		BODY	116	P RED AND SWOLLEN PINNA(E)
		BODY	117	P RED AND SWOLLEN PINNA(E)
		BODY	118	P RED AND SWOLLEN PINNA(E)
		BODY	119	P RED AND SWOLLEN PINNA(E)
		DEAD	119	P SCHEDULED EUTHANASIA
338	F 2.5 MG/KG/DAY	NOSE/MOUTH	74	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA
340	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
342	F 2.5 MG/KG/DAY	NOSE/MOUTH	57	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	64	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	91	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	100	P DARK MATERIAL AROUND NOSE
		DEAD	118	P INCISOR(S) TRIMMED
343	F 2.5 MG/KG/DAY	BODY	74	P SCHEDULED EUTHANASIA
		BODY	75	P RED AND SWOLLEN PINNA(E)
		BODY	76	P RED AND SWOLLEN PINNA(E)
		BODY	77	P RED AND SWOLLEN PINNA(E)
		BODY	78	P RED AND SWOLLEN PINNA(E)
		BODY	79	P RED AND SWOLLEN PINNA(E)
		BODY	80	P RED AND SWOLLEN PINNA(E)
		BODY	81	P RED AND SWOLLEN PINNA(E)
		BODY	82	P RED AND SWOLLEN PINNA(E)
		BODY	83	P RED AND SWOLLEN PINNA(E)

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
343	F 2.5 MG/KG/DAY	BODY	84	P RED AND SWOLLEN PINNA(E)
		BODY	85	P RED AND SWOLLEN PINNA(E)
		BODY	86	P RED AND SWOLLEN PINNA(E)
		BODY	87	P RED AND SWOLLEN PINNA(E)
		BODY	88	P RED AND SWOLLEN PINNA(E)
		BODY	89	P RED AND SWOLLEN PINNA(E)
		BODY	90	P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	90	P DARK MATERIAL AROUND NOSE
		BODY	91	P RED AND SWOLLEN PINNA(E)
		BODY	92	P RED AND SWOLLEN PINNA(E)
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	99	P RED AND SWOLLEN PINNA(E)
		BODY	100	P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	P RED AND SWOLLEN PINNA(E)
		BODY	102	P RED AND SWOLLEN PINNA(E)
		BODY	103	P RED AND SWOLLEN PINNA(E)
		BODY	104	P RED AND SWOLLEN PINNA(E)
		BODY	105	P RED AND SWOLLEN PINNA(E)
		BODY	106	P RED AND SWOLLEN PINNA(E)
BODY	107	P RED AND SWOLLEN PINNA(E)		
BODY	108	P RED AND SWOLLEN PINNA(E)		
BODY	109	P RED AND SWOLLEN PINNA(E)		
BODY	110	P RED AND SWOLLEN PINNA(E)		
BODY	115	P RED AND SWOLLEN PINNA(E)		
BODY	115	P SCHEDULED EUTHANASIA		
351	F 2.5 MG/KG/DAY	BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	115	P SCHEDULED EUTHANASIA

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



( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
356	F 2.5 MG/KG/DAY	NOSE/MOUTH	73	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	108	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	109	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	110	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	111	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	112	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	115	P DARK MATERIAL AROUND MOUTH
		DEAD	115	P SCHEDULED EUTHANASIA
		DEAD	117	P SCHEDULED EUTHANASIA
357	F 2.5 MG/KG/DAY	BODY	64	1 HAIRLOSS
359	F 2.5 MG/KG/DAY	BODY	73	1 HAIRLOSS
		BODY	74	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
		BODY	80	1 HAIRLOSS
		BODY	81	1 HAIRLOSS
		BODY	82	1 HAIRLOSS
		BODY	83	1 HAIRLOSS
		BODY	84	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
359	F 2.5 MG/KG/DAY	BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		NOSE/MOUTH	100	P I NCISOR(S) TRIMMED
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	2 HAI RLOSS
		BODY	106	2 HAI RLOSS
		BODY	107	2 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	2 HAI RLOSS
		BODY	112	2 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	2 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
359	F 2.5 MG/KG/DAY	BODY	116	2 HAIRLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
367	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
368	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
372	F 2.5 MG/KG/DAY	NOSE/MOUTH	88	P INCISOR(S) MISSING
		NOSE/MOUTH	89	P INCISOR(S) BROKEN
		NOSE/MOUTH	90	P INCISOR(S) BROKEN
		BODY	91	1 HAIRLOSS
		EYES	91	P DARK MATERIAL AROUND EYE(S)
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	94	P INCISOR(S) BROKEN
		EYES	95	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	95	P INCISOR(S) BROKEN
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	96	P INCISOR(S) BROKEN
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	97	P INCISOR(S) BROKEN
		EYES	98	P DARK MATERIAL AROUND EYE(S)
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	101	P INCISOR(S) BROKEN

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS		
372	F 2.5 MG/KG/DAY	NOSE/MOUTH	102	P INCISOR(S) BROKEN		
		NOSE/MOUTH	103	P INCISOR(S) BROKEN		
		EYES	103	P DARK MATERIAL AROUND EYE(S)		
		EYES	104	P DARK MATERIAL AROUND EYE(S)		
		EYES	105	P DARK MATERIAL AROUND EYE(S)		
		EYES	106	P DARK MATERIAL AROUND EYE(S)		
		EYES	107	P DARK MATERIAL AROUND EYE(S)		
		EYES	108	P DARK MATERIAL AROUND EYE(S)		
		EYES	109	P DARK MATERIAL AROUND EYE(S)		
		EYES	110	P DARK MATERIAL AROUND EYE(S)		
		EYES	111	P DARK MATERIAL AROUND EYE(S)		
		DEAD	116	P SCHEDULED EUTHANASIA		
		373	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P DARK MATERIAL AROUND NOSE
				NOSE/MOUTH	100	P INCISOR(S) TRIMMED
				NOSE/MOUTH	102	P DARK MATERIAL AROUND NOSE
				NOSE/MOUTH	104	P DARK MATERIAL AROUND NOSE
NOSE/MOUTH	105			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	106			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	107			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	108			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	109			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	110			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	111			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	112			P DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	113			P DARK MATERIAL AROUND NOSE		
DEAD	116			P SCHEDULED EUTHANASIA		
379	F 2.5 MG/KG/DAY	BODY	88	1 HAIRLOSS		
		BODY	89	1 HAIRLOSS		
		BODY	90	1 HAIRLOSS		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
379	F 2.5 MG/KG/DAY	BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
382	F 2.5 MG/KG/DAY	DEAD	97	P SCHEDULED EUTHANASIA - GESTATION DAY 25
		NOSE/MOUTH	92	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	109	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	110	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	111	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	112	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	113	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	114	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	115	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	116	P DARK MATERIAL AROUND MOUTH
		DEAD	116	P SCHEDULED EUTHANASIA
		BODY	71	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
		385	F 2.5 MG/KG/DAY	BODY
BODY	73			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	74			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	75			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	76			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	71			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	72			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
BODY	73			P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
385	F 2.5 MG/KG/DAY	BODY	77	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1. OCM).
		BODY	78	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.5CM X 3. OCM X 1.5CM).
		BODY	79	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.5CM X 3. OCM X 1.5CM).
		BODY	80	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	81	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	82	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	83	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	84	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	85	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	86	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	87	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3. OCM X 3. OCM X 1.5CM).
		BODY	88	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	89	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	90	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	91	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
385	F 2.5 MG/KG/DAY	BODY	92	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	93	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	94	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	95	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	96	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	97	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	98	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	99	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	100	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	102	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	103	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	104	P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2. OCM X 2. OCM X 1.5CM)
		BODY	104	P RED AND SWOLLEN PINNA(E)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
385	F 2.5 MG/KG/DAY	BODY	107	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	108	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	109	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	110	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	111	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	112	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	113	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	114	P SWELLING - RIGHT INGUINAL MAMMARIES
		BODY	115	P SWELLING - RIGHT INGUINAL MAMMARIES
		DEAD	115	P SCHEDULED EUTHANASIA
401	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	100	P SCHEDULED EUTHANASIA - GESTATION DAY 25
404	F 2.5 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
412	F 2.5 MG/KG/DAY	DEAD	109	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
418	F 2.5 MG/KG/DAY	NOSE/MOUTH	97	P DARK MATERIAL AROUND MOUTH
		DEAD	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA
421	F 2.5 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
432	F 2.5 MG/KG/DAY	BODY	43	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	73	1 HAIRLOSS
		BODY	74	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS

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



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
432	F	2.5 MG/KG/DAY	79	1 HAIRLOSS
			80	1 HAIRLOSS
			81	1 HAIRLOSS
			82	1 HAIRLOSS
			84	1 HAIRLOSS
			85	1 HAIRLOSS
			86	1 HAIRLOSS
			87	1 HAIRLOSS
			88	1 HAIRLOSS
			89	1 HAIRLOSS
			90	1 HAIRLOSS
			91	1 HAIRLOSS
			92	1 HAIRLOSS
			93	1 HAIRLOSS
			94	1 HAIRLOSS
			95	1 HAIRLOSS
			96	1 HAIRLOSS
			97	1 HAIRLOSS
			98	1 HAIRLOSS
			99	1 HAIRLOSS
			100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
			101	1 HAIRLOSS
			102	1 HAIRLOSS
			103	1 HAIRLOSS
			104	1 HAIRLOSS
			105	1 HAIRLOSS
			106	1 HAIRLOSS
			107	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
432 F	2.5 MG/KG/DAY	BODY	108	1	HAI RLOSS
		BODY	109	1	HAI RLOSS
		BODY	110	1	HAI RLOSS
		BODY	111	1	HAI RLOSS
		BODY	112	1	HAI RLOSS
		BODY	113	1	HAI RLOSS
		BODY	114	1	HAI RLOSS
		BODY	115	1	HAI RLOSS
		BODY	116	1	HAI RLOSS
		DEAD	116	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	100	P	INCISOR(S) TRIMMED
		DEAD	116	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	75	P	INCISOR(S) BROKEN
		NOSE/MOUTH	76	P	INCISOR(S) BROKEN
		NOSE/MOUTH	77	P	INCISOR(S) BROKEN
		NOSE/MOUTH	78	P	INCISOR(S) BROKEN
NOSE/MOUTH	98	P	INCISOR(S) TRIMMED		
NOSE/MOUTH	107	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	108	P	INCISOR(S) TRIMMED		
NOSE/MOUTH	109	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	110	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	111	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	112	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	113	P	DARK MATERIAL AROUND NOSE		
DEAD	116	P	SCHEDULED EUTHANASIA		
NOSE/MOUTH	64	P	DARK MATERIAL AROUND NOSE		
NOSE/MOUTH	97	P	DARK MATERIAL AROUND MOUTH		
NOSE/MOUTH	98	P	DARK MATERIAL AROUND MOUTH		
NOSE/MOUTH	100	P	INCISOR(S) TRIMMED		

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
445	F 2.5 MG/KG/DAY	NOSE/MOUTH	106	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107	P DARK MATERIAL AROUND NOSE
		DEAD	117	P SCHEDULED EUTHANASIA
625	F 2.5 MG/KG/DAY	NOSE/MOUTH	50	P SWELLING - NOSE AREA
		NOSE/MOUTH	50	P DARK MATERIAL AROUND NOSE
		BODY	50	P HAIRLOSS
		NOSE/MOUTH	50	P OPEN LESION(S) - NOSE AREA
		BODY	57	1 HAIRLOSS
		NOSE/MOUTH	57	P DARK MATERIAL AROUND NOSE
		BODY	64	1 HAIRLOSS
		NOSE/MOUTH	64	P DARK MATERIAL AROUND NOSE
		BODY	71	1 HAIRLOSS
		BODY	80	P SCAB(S) - LEFT FOREPAW.
		BODY	81	P SCAB(S) - LEFT FOREPAW.
		BODY	82	P SCAB(S) - LEFT FOREPAW.
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
625	F 2.5 MG/KG/DAY	BODY	109		1 HAIRLOSS
		BODY	110		1 HAIRLOSS
		BODY	111		1 HAIRLOSS
		BODY	112		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	114		1 HAIRLOSS
		BODY	115		1 HAIRLOSS
303	F 5.0 MG/KG/DAY	DEAD	117		P SCHEDULED EUTHANASIA
		EYES	50		P EYELIDS PARTIALLY CLOSED
		EYES	57		P EYELIDS PARTIALLY CLOSED
		EYES	64		P EYELIDS PARTIALLY CLOSED
		EYES	71		P EYELIDS PARTIALLY CLOSED
		BODY	71		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
		BODY	75		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
		EYES	75		P EYELIDS PARTIALLY CLOSED
		BODY	76		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
		EYES	76		P EYELIDS PARTIALLY CLOSED
		BODY	77		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
		BODY	78		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
		BODY	79		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).
EYES	79		P EYELIDS PARTIALLY CLOSED		
BODY	80		P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1. OCM X 1. OCM X 0.5CM).		
EYES	80		P EYELIDS PARTIALLY CLOSED		

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

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
303	F 5.0 MG/KG/DAY	BODY	81	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (1.0CM X 1.0CM X 0.5CM).
		EYES	81	P EYELIDS PARTIALLY CLOSED
		EYES	82	P EYELIDS PARTIALLY CLOSED
		BODY	82	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		BODY	83	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	83	P EYELIDS PARTIALLY CLOSED
		BODY	84	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	84	P EYELIDS PARTIALLY CLOSED
		BODY	85	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		BODY	86	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		BODY	87	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		BODY	88	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	88	P EYELIDS PARTIALLY CLOSED
		BODY	89	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	89	P EYELIDS PARTIALLY CLOSED
		BODY	90	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	90	P EYELIDS PARTIALLY CLOSED
		BODY	91	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	91	P EYELIDS PARTIALLY CLOSED

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
303	F 5.0 MG/KG/DAY	BODY	92	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	92	P EYELIDS PARTIALLY CLOSED
		BODY	93	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	93	P EYELIDS PARTIALLY CLOSED
		BODY	94	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	94	P EYELIDS PARTIALLY CLOSED
		BODY	95	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	95	P EYELIDS PARTIALLY CLOSED
		BODY	96	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	96	P EYELIDS PARTIALLY CLOSED
		BODY	97	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	97	P EYELIDS PARTIALLY CLOSED
		BODY	98	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	98	P EYELIDS PARTIALLY CLOSED
		BODY	99	P RAISED AREA - LOWER RIGHT ABDOMINAL REGION (0.5CM X 0.5CM X 0.5CM)
		EYES	99	P EYELIDS PARTIALLY CLOSED
		EYES	100	P EYELIDS PARTIALLY CLOSED
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	101	P EYELIDS PARTIALLY CLOSED
		EYES	102	P EYELIDS PARTIALLY CLOSED
		EYES	103	P EYELIDS PARTIALLY CLOSED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
303 F	5.0 MG/KG/DAY	EYES	104		P EYELIDS PARTIALLY CLOSED
		EYES	108		P EYELIDS PARTIALLY CLOSED
		EYES	109		P EYELIDS PARTIALLY CLOSED
		EYES	110		P EYELIDS PARTIALLY CLOSED
		EYES	111		P EYELIDS PARTIALLY CLOSED
		EYES	112		P EYELIDS PARTIALLY CLOSED
		EYES	113		P EYELIDS PARTIALLY CLOSED
		EYES	115		P EYELIDS PARTIALLY CLOSED
		EYES	116		P EYELIDS PARTIALLY CLOSED
		EYES	117		P EYELIDS PARTIALLY CLOSED
		DEAD	117		P SCHEDULED EUTHANASIA
		BODY	77		P SWELLING - RIGHT LATERAL THORACIC
		BODY	78		P RAISED AREA - RIGHT LATERAL THORACIC (1.5CM X 2.0CM X 1.0CM).
		BODY	79		1 URINE STAIN
		BODY	79		P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.0CM X 2.0CM X 1.0CM).
		BODY	80		P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.0CM X 2.0CM X 1.0CM).
		BODY	81		P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (2.0CM X 2.0CM X 1.0CM).
BODY	81		1 URINE STAIN		
BODY	82		1 URINE STAIN		
BODY	82		P RAISED AREA - RIGHT LATERAL ABDOMINAL REGION (3.0CM X 3.0CM X 1.5CM).		
BODY	82		1 HAIRLOSS		
BODY	83		P RAISED AREA - RIGHT LATERAL THORACIC (3.0CM X 3.0CM X 1.5CM)		
EYES	83		P EYE(S) PALE IN COLOR		

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
309	F 5.0 MG/KG/DAY	ACTIVITY	83	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	84	P HOLDS RIGHT FORELIMB UP
		EYES	84	P EYE(S) PALE IN COLOR
		BODY	84	P RAISED AREA - RIGHT LATERAL THORACIC (3.0CM X 3.0CM X 1.5CM)
		ACTIVITY	85	P HOLDS RIGHT FORELIMB UP
		BODY	85	P RAISED AREA - RIGHT LATERAL THORACIC (3.0CM X 3.0CM X 1.5CM)
		BODY	85	1 URINE STAIN
		EYES	85	P EYE(S) PALE IN COLOR
		BODY	86	P RAISED AREA - RIGHT LATERAL THORACIC (3.0CM X 3.0CM X 1.5CM)
		BODY	86	1 URINE STAIN
		ACTIVITY	86	P HOLDS RIGHT FORELIMB UP
		EYES	86	P EYE(S) PALE IN COLOR
		ACTIVITY	87	P HOLDS RIGHT FORELIMB UP
		BODY	87	P RAISED AREA - RIGHT LATERAL THORACIC (3.0CM X 3.0CM X 1.5CM)
		BODY	87	1 URINE STAIN
		EYES	87	P EYE(S) PALE IN COLOR
		BODY	88	P RAISED AREA - RIGHT LATERAL THORACIC (5.0CM X 4.0CM X 3.5CM)
		BODY	88	1 URINE STAIN
		BODY	88	P EXTREMITIES - PALE IN COLOR
		EYES	88	P EYE(S) PALE IN COLOR
		ACTIVITY	88	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	88	P LIMPING - RIGHT FORELIMB
		ACTIVITY	88	P ACTIVITY DECREASED
		NOSE/MOUTH	88	P DARK MATERIAL AROUND NOSE

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



APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
309	F 5.0 MG/KG/DAY	BODY	89	P RAISED AREA - RIGHT LATERAL THORACIC (5.0CM X 4.0CM X 3.5CM)
		BODY	89	1 URINE STAIN
		BODY	89	P EXTREMITIES - PALE IN COLOR
		ACTIVITY	89	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	89	P LIMPING - RIGHT FORELIMB
		ACTIVITY	89	P ACTIVITY DECREASED
		EYES	89	P EYE(S) PALE IN COLOR
		NOSE/MOUTH	89	P DARK MATERIAL AROUND NOSE
		BODY	90	P RAISED AREA - RIGHT LATERAL THORACIC (5.0CM X 4.0CM X 3.5CM)
		BODY	90	1 URINE STAIN
		BODY	90	P EXTREMITIES - PALE IN COLOR
		ACTIVITY	90	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	90	P LIMPING - RIGHT FORELIMB
		ACTIVITY	90	P ACTIVITY DECREASED
		NOSE/MOUTH	90	P DARK MATERIAL AROUND NOSE
		BODY	91	P RAISED AREA - RIGHT LATERAL THORACIC (5.0CM X 4.0CM X 3.5CM)
		BODY	91	P EXTREMITIES - PALE IN COLOR
		EYES	91	P EYE(S) PALE IN COLOR
		NOSE/MOUTH	91	P DARK MATERIAL AROUND NOSE
		ACTIVITY	91	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	91	P LIMPING - RIGHT FORELIMB
		ACTIVITY	91	P ACTIVITY DECREASED
		BODY	91	1 URINE STAIN
		ACTIVITY	92	P HOLDS RIGHT FORELIMB UP
		ACTIVITY	92	P LIMPING - RIGHT FORELIMB
		ACTIVITY	92	P ACTIVITY DECREASED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
309	F 5.0 MG/KG/DAY	BODY	92	1 URINE STAIN
		BODY	92	P RAISED AREA - RIGHT LATERAL THORACIC (5.0CM X 4.0CM X 3.5CM)
		BODY EYES	92	P EXTREMITIES - PALE IN COLOR
		NOSE/MOUTH	92	P EYE(S) PALE IN COLOR
		DEAD	92	P DARK MATERIAL AROUND NOSE
		BODY	80	P UNSCHEDULED EUTHANASIA - HUMANE REASONS
		BODY	81	1 HAIRLOSS
		BODY	82	1 HAIRLOSS
		BODY	83	1 HAIRLOSS
		BODY	84	1 HAIRLOSS
316	F 5.0 MG/KG/DAY	BODY	85	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		EXCRETA/EMESIS	96	P REDDISH COLORED VAGINAL DISCHARGE
		BODY	96	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
316	F 5.0 MG/KG/DAY	BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
320	F 5.0 MG/KG/DAY	DEAD	97	P SCHEDULED EUTHANASIA
326	F 5.0 MG/KG/DAY	DEAD	97	P SCHEDULED EUTHANASIA - GESTATION DAY 25
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
328	F 5.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
		EYES	71	P DARK MATERIAL AROUND EYE(S)
		EYES	78	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	78	P MALALIGNMENT
		NOSE/MOUTH	78	P INCISOR(S) TRIMMED
		NOSE/MOUTH	78	P OPEN LESION(S) - ROOF OF MOUTH
		NOSE/MOUTH	79	P MALALIGNMENT
		NOSE/MOUTH	79	P OPEN LESION(S) - ROOF OF MOUTH
		EYES	79	P DARK MATERIAL AROUND EYE(S)
		EYES	80	P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
328	F 5.0 MG/KG/DAY	NOSE/MOUTH	80	P MALALIGNMENT
		NOSE/MOUTH	80	P OPEN LESION(S) - ROOF OF MOUTH
		EYES	81	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	81	P MALALIGNMENT
		NOSE/MOUTH	81	P OPEN LESION(S) - ROOF OF MOUTH
		EYES	82	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	82	P MALALIGNMENT
		NOSE/MOUTH	82	P OPEN LESION(S) - ROOF OF MOUTH
		EYES	83	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	83	P MALALIGNMENT
		NOSE/MOUTH	83	P INCISOR(S) TRIMMED
		EYES	84	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	84	P MALALIGNMENT
		NOSE/MOUTH	84	P INCISOR(S) TRIMMED
		NOSE/MOUTH	84	P OPEN LESION(S) - ROOF OF MOUTH
		EYES	85	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	85	P MALALIGNMENT
		NOSE/MOUTH	85	P OPEN LESION(S) - ROOF OF MOUTH
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P MALALIGNMENT
		EYES	86	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	87	P MALALIGNMENT
		NOSE/MOUTH	87	P INCISOR(S) BROKEN
		EYES	87	P DARK MATERIAL AROUND EYE(S)
		EYES	88	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	88	P MALALIGNMENT
		NOSE/MOUTH	88	P INCISOR(S) BROKEN
		EYES	89	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	89	P MALALIGNMENT

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
328	F 5.0 MG/KG/DAY	NOSE/MOUTH EYES	89	P INCISOR(S) BROKEN
		NOSE/MOUTH	90	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	90	P MALALIGNMENT
		NOSE/MOUTH	90	P INCISOR(S) BROKEN
		EYES	91	P DARK MATERIAL AROUND EYE(S)
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	92	P MALALIGNMENT
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	93	P MALALIGNMENT
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	94	P MALALIGNMENT
		EYES	95	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	95	P MALALIGNMENT
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	96	P MALALIGNMENT
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	97	P MALALIGNMENT
		EYES	98	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	98	P MALALIGNMENT
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	99	P MALALIGNMENT
		NOSE/MOUTH	100	P MALALIGNMENT
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	101	P MALALIGNMENT
		EYES	102	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	102	P MALALIGNMENT
		EYES	103	P DARK MATERIAL AROUND EYE(S)

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
328	F 5.0 MG/KG/DAY	NOSE/MOUTH EYES	103	P MALALIGNMENT
		NOSE/MOUTH	104	P DARK MATERIAL AROUND EYE(S)
		EYES	104	P MALALIGNMENT
		NOSE/MOUTH	105	P DARK MATERIAL AROUND EYE(S)
		EYES	106	P MALALIGNMENT
		NOSE/MOUTH	106	P DARK MATERIAL AROUND EYE(S)
		EYES	107	P MALALIGNMENT
		NOSE/MOUTH	107	P DARK MATERIAL AROUND EYE(S)
		EYES	108	P MALALIGNMENT
		NOSE/MOUTH	108	P DARK MATERIAL AROUND EYE(S)
		EYES	109	P MALALIGNMENT
		NOSE/MOUTH	109	P DARK MATERIAL AROUND EYE(S)
		EYES	110	P MALALIGNMENT
		NOSE/MOUTH	110	P DARK MATERIAL AROUND EYE(S)
		EYES	111	P MALALIGNMENT
		NOSE/MOUTH	111	P DARK MATERIAL AROUND EYE(S)
		EYES	112	P MALALIGNMENT
		NOSE/MOUTH	112	P DARK MATERIAL AROUND EYE(S)
		EYES	113	P MALALIGNMENT
		NOSE/MOUTH	113	P DARK MATERIAL AROUND EYE(S)
		EYES	114	P MALALIGNMENT
		NOSE/MOUTH	114	P DARK MATERIAL AROUND EYE(S)
		EYES	115	P MALALIGNMENT
		NOSE/MOUTH	115	P DARK MATERIAL AROUND EYE(S)
		EYES	116	P INCISOR(S) TRIMMED
		NOSE/MOUTH	116	P DARK MATERIAL AROUND EYE(S)
		EYES	117	P MALALIGNMENT
				P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS		
			DAY	DAY			
328	F 5.0 MG/KG/DAY	NOSE/MOUTH	117		P MALALIGNMENT		
		EYES	118		P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	118		P MALALIGNMENT		
		EYES	119		P MALPOSITIONED PUPIL - RIGHT EYE		
		NOSE/MOUTH	119		P MALALIGNMENT		
		NOSE/MOUTH	119		P INCISOR(S) TRIMMED		
		EYES	120		P MALPOSITIONED PUPIL - RIGHT EYE		
		EYES	120		P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	120		P MALALIGNMENT		
		EYES	121		P MALPOSITIONED PUPIL - RIGHT EYE		
		EYES	121		P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	121		P MALALIGNMENT		
		EYES	122		P MALPOSITIONED PUPIL - RIGHT EYE		
		EYES	122		P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	122		P MALALIGNMENT		
		330	F 5.0 MG/KG/DAY	DEAD	71		P SCHEDULED EUTHANASIA
				BODY	79		P SWELLING - RIGHT LATERAL THORACIC
EYES	79				P DARK MATERIAL AROUND EYE(S)		
NOSE/MOUTH	79				P INCISOR(S) MISSING		
NOSE/MOUTH	80				P INCISOR(S) MISSING		
NOSE/MOUTH	81				P INCISOR(S) BROKEN		
NOSE/MOUTH	82				P INCISOR(S) BROKEN		
NOSE/MOUTH	83				P INCISOR(S) BROKEN		
NOSE/MOUTH	84				P INCISOR(S) BROKEN		
NOSE/MOUTH	85				P INCISOR(S) BROKEN		
NOSE/MOUTH	86				P INCISOR(S) BROKEN		
NOSE/MOUTH	87				P INCISOR(S) BROKEN		
NOSE/MOUTH	88				P INCISOR(S) BROKEN		
NOSE/MOUTH	88				P INCISOR(S) BROKEN		
NOSE/MOUTH	89				P INCISOR(S) BROKEN		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
330	F 5.0 MG/KG/DAY	NOSE/MOUTH	90	P INCISOR(S) BROKEN
		NOSE/MOUTH	91	P INCISOR(S) BROKEN
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		NOSE/MOUTH	99	P INCISOR(S) BROKEN
344	F 5.0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
		BODY	71	1 HAI RLOSS
		BODY	73	1 HAI RLOSS
		BODY	74	1 HAI RLOSS
		BODY	75	1 HAI RLOSS
		BODY	76	1 HAI RLOSS
		BODY	77	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	79	1 HAI RLOSS
		BODY	80	1 HAI RLOSS
		BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
BODY	86	1 HAI RLOSS		
BODY	87	1 HAI RLOSS		
BODY	88	1 HAI RLOSS		
BODY	89	1 HAI RLOSS		
BODY	90	1 HAI RLOSS		
BODY	91	1 HAI RLOSS		
BODY	92	1 HAI RLOSS		
BODY	93	1 HAI RLOSS		
BODY	94	1 HAI RLOSS		

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



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
344	F 5.0 MG/KG/DAY	BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
346	F 5.0 MG/KG/DAY	NOSE/MOUTH	116	P SCHEDULED EUTHANASIA
		DEAD	100	P INCISOR(S) TRIMMED
347	F 5.0 MG/KG/DAY	NOSE/MOUTH	118	P SCHEDULED EUTHANASIA
		DEAD	100	P INCISOR(S) TRIMMED
350	F 5.0 MG/KG/DAY	NOSE/MOUTH	115	P SCHEDULED EUTHANASIA
		DEAD	100	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA

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

( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
360	F 5.0 MG/KG/DAY	NOSE/MOUTH	75	P INCISOR(S) BROKEN
		NOSE/MOUTH	76	P INCISOR(S) BROKEN
		NOSE/MOUTH	77	P INCISOR(S) BROKEN
		NOSE/MOUTH	78	P INCISOR(S) BROKEN
		NOSE/MOUTH	79	P INCISOR(S) BROKEN
		NOSE/MOUTH	80	P INCISOR(S) BROKEN
		NOSE/MOUTH	81	P INCISOR(S) BROKEN
		NOSE/MOUTH	82	P INCISOR(S) BROKEN
		NOSE/MOUTH	83	P INCISOR(S) BROKEN
		NOSE/MOUTH	84	P INCISOR(S) BROKEN
		NOSE/MOUTH	85	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		NOSE/MOUTH	87	P INCISOR(S) BROKEN
		NOSE/MOUTH	88	P INCISOR(S) BROKEN
		NOSE/MOUTH	89	P INCISOR(S) BROKEN
		NOSE/MOUTH	90	P INCISOR(S) BROKEN
		NOSE/MOUTH	91	P INCISOR(S) BROKEN
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P INCISOR(S) BROKEN
		NOSE/MOUTH	94	P INCISOR(S) BROKEN
		NOSE/MOUTH	95	P INCISOR(S) MISSING
		NOSE/MOUTH	96	P INCISOR(S) BROKEN
		NOSE/MOUTH	97	P INCISOR(S) BROKEN
		NOSE/MOUTH	98	P INCISOR(S) MISSING
		EXCRETA/EMESIS	98	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	98	P REDDISH COLORED VAGINAL DISCHARGE
		NOSE/MOUTH	99	P INCISOR(S) BROKEN
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
360	F 5.0 MG/KG/DAY	NOSE/MOUTH	99	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	100	P INCISOR(S) BROKEN
		NOSE/MOUTH	101	P INCISOR(S) BROKEN
		NOSE/MOUTH	102	P INCISOR(S) BROKEN
		NOSE/MOUTH	103	P INCISOR(S) BROKEN
		NOSE/MOUTH	104	P INCISOR(S) BROKEN
		NOSE/MOUTH	105	P INCISOR(S) BROKEN
		NOSE/MOUTH	106	P INCISOR(S) BROKEN
		NOSE/MOUTH	107	P INCISOR(S) BROKEN
		NOSE/MOUTH	108	P INCISOR(S) BROKEN
		NOSE/MOUTH	109	P INCISOR(S) MISSING
		NOSE/MOUTH	110	P INCISOR(S) BROKEN
		NOSE/MOUTH	111	P INCISOR(S) BROKEN
		NOSE/MOUTH	112	P INCISOR(S) BROKEN
		NOSE/MOUTH	113	P INCISOR(S) BROKEN
		NOSE/MOUTH	114	P INCISOR(S) BROKEN
		NOSE/MOUTH	115	P INCISOR(S) BROKEN
		NOSE/MOUTH	116	P INCISOR(S) BROKEN
		NOSE/MOUTH	117	P INCISOR(S) BROKEN
		NOSE/MOUTH	118	P INCISOR(S) BROKEN
		DEAD	118	P SCHEDULED EUTHANASIA
361	F 5.0 MG/KG/DAY	NOSE/MOUTH	96	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
365	F 5.0 MG/KG/DAY	BODY	75	P RIGHT PINNA - SMALL IN SIZE
		BODY	76	P RIGHT PINNA - SMALL IN SIZE
		BODY	77	P RIGHT PINNA - SMALL IN SIZE
		BODY	78	P RIGHT PINNA - SMALL IN SIZE
		BODY	79	P RIGHT PINNA - SMALL IN SIZE

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
365	F 5.0 MG/KG/DAY	BODY	80	P RIGHT PINNA - SMALL IN SIZE
		BODY	81	P RIGHT PINNA - SMALL IN SIZE
		BODY	82	P RIGHT PINNA - SMALL IN SIZE
		BODY	83	P RIGHT PINNA - SMALL IN SIZE
		BODY	84	P RIGHT PINNA - SMALL IN SIZE
		BODY	85	P RIGHT PINNA - SMALL IN SIZE
		BODY	86	P RIGHT PINNA - SMALL IN SIZE
		BODY	87	P RIGHT PINNA - SMALL IN SIZE
		BODY	88	P RIGHT PINNA - SMALL IN SIZE
		BODY	89	P RIGHT PINNA - SMALL IN SIZE
		BODY	90	P RIGHT PINNA - SMALL IN SIZE
		BODY	91	P RIGHT PINNA - SMALL IN SIZE
		BODY	92	P RIGHT PINNA - SMALL IN SIZE
		BODY	93	P RIGHT PINNA - SMALL IN SIZE
		BODY	94	P RIGHT PINNA - SMALL IN SIZE
		BODY	95	P RIGHT PINNA - SMALL IN SIZE
		BODY	96	P RIGHT PINNA - SMALL IN SIZE
		BODY	97	P RIGHT PINNA - SMALL IN SIZE
		BODY	98	P RIGHT PINNA - SMALL IN SIZE
		BODY	99	P RIGHT PINNA - SMALL IN SIZE
		BODY	100	P RIGHT PINNA - SMALL IN SIZE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	P RIGHT PINNA - SMALL IN SIZE
		BODY	102	P RED AND SWOLLEN PINNA(E)
		BODY	108	P RIGHT PINNA - SMALL IN SIZE
		BODY	109	P RIGHT PINNA - SMALL IN SIZE
		BODY	110	P RIGHT PINNA - SMALL IN SIZE
		BODY	111	P RIGHT PINNA - SMALL IN SIZE
		BODY	112	P RIGHT PINNA - SMALL IN SIZE

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
365	F 5.0 MG/KG/DAY	BODY	113	P RIGHT PINNA - SMALL IN SIZE
		BODY	114	P RIGHT PINNA - SMALL IN SIZE
		BODY	115	P RIGHT PINNA - SMALL IN SIZE
		BODY	116	P RIGHT PINNA - SMALL IN SIZE
		DEAD	116	P SCHEDULED EUTHANASIA
374	F 5.0 MG/KG/DAY	NOSE/MOUTH	50	P INCISOR(S) TRIMMED
		NOSE/MOUTH	50	P MALALIGNMENT
		NOSE/MOUTH	57	P MALALIGNMENT
		NOSE/MOUTH	57	P INCISOR(S) TRIMMED
		NOSE/MOUTH	75	P INCISOR(S) TRIMMED
		NOSE/MOUTH	75	P INCISOR(S) BROKEN
		NOSE/MOUTH	76	P INCISOR(S) BROKEN
		NOSE/MOUTH	77	P INCISOR(S) BROKEN
		NOSE/MOUTH	78	P INCISOR(S) BROKEN
		NOSE/MOUTH	79	P INCISOR(S) BROKEN
		NOSE/MOUTH	80	P INCISOR(S) BROKEN
		NOSE/MOUTH	81	P INCISOR(S) BROKEN
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		NOSE/MOUTH	92	P INCISOR(S) BROKEN
		NOSE/MOUTH	93	P INCISOR(S) MISSING
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		NOSE/MOUTH	94	P INCISOR(S) MISSING
		BODY	95	1 HAIRLOSS
		NOSE/MOUTH	95	P INCISOR(S) MISSING
		BODY	96	1 HAIRLOSS
		NOSE/MOUTH	96	P INCISOR(S) MISSING

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
374	F 5.0 MG/KG/DAY	BODY	97	1 HAIRLOSS
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	97	P INCISOR(S) MISSING
		NOSE/MOUTH	98	P INCISOR(S) MISSING
		BODY	98	1 HAIRLOSS
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		NOSE/MOUTH	99	P INCISOR(S) MISSING
		NOSE/MOUTH	100	P INCISOR(S) MISSING
		NOSE/MOUTH	101	P INCISOR(S) MISSING
		NOSE/MOUTH	102	P INCISOR(S) MISSING
		BODY	103	1 HAIRLOSS
		NOSE/MOUTH	103	P INCISOR(S) MISSING
		BODY	104	1 HAIRLOSS
		NOSE/MOUTH	104	P INCISOR(S) MISSING
		BODY	105	1 HAIRLOSS
		NOSE/MOUTH	105	P INCISOR(S) MISSING
		BODY	106	1 HAIRLOSS
		NOSE/MOUTH	106	P INCISOR(S) MISSING
		BODY	107	1 HAIRLOSS
		NOSE/MOUTH	107	P INCISOR(S) MISSING
		BODY	108	1 HAIRLOSS
		NOSE/MOUTH	108	P INCISOR(S) MISSING
		NOSE/MOUTH	108	P INCISOR(S) TRIMMED
		BODY	109	1 HAIRLOSS
		NOSE/MOUTH	109	P INCISOR(S) MISSING
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		NOSE/MOUTH	111	P INCISOR(S) MISSING
		BODY	112	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
374	F 5.0 MG/KG/DAY	NOSE/MOUTH	112	P INCISOR(S) MISSING
		BODY	113	1 HAIRLOSS
		NOSE/MOUTH	113	P INCISOR(S) MISSING
		BODY	114	1 HAIRLOSS
		NOSE/MOUTH	114	P INCISOR(S) MISSING
		BODY	115	1 HAIRLOSS
		NOSE/MOUTH	115	P INCISOR(S) TRIMMED
		NOSE/MOUTH	115	P INCISOR(S) MISSING
		BODY	116	1 HAIRLOSS
		NOSE/MOUTH	116	P INCISOR(S) MISSING
		BODY	117	1 HAIRLOSS
		NOSE/MOUTH	117	P INCISOR(S) BROKEN
		DEAD	117	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		375	F 5.0 MG/KG/DAY	BODY
BODY	106			1 HAIRLOSS
BODY	107			1 HAIRLOSS
BODY	108			1 HAIRLOSS
BODY	109			1 HAIRLOSS
BODY	110			1 HAIRLOSS
DEAD	115			P SCHEDULED EUTHANASIA
NOSE/MOUTH	99			P INCISOR(S) TRIMMED
NOSE/MOUTH	114			P REDDISH NASAL DISCHARGE
DEAD	115			P SCHEDULED EUTHANASIA
381	F 5.0 MG/KG/DAY			NOSE/MOUTH
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	117	P SCHEDULED EUTHANASIA
		DEAD	117	P SCHEDULED EUTHANASIA

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

( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
393	F 5.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
398	F 5.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	102	P INCISOR(S) BROKEN
		NOSE/MOUTH	103	P INCISOR(S) BROKEN
		NOSE/MOUTH	104	P INCISOR(S) BROKEN
		NOSE/MOUTH	105	P INCISOR(S) BROKEN
		NOSE/MOUTH	106	P INCISOR(S) BROKEN
		NOSE/MOUTH	107	P INCISOR(S) BROKEN
		DEAD	117	P SCHEDULED EUTHANASIA
402	F 5.0 MG/KG/DAY	BODY	43	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
410	F 5.0 MG/KG/DAY	NOSE/MOUTH	50	P MALALIGNMENT
		NOSE/MOUTH	57	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	71	P DARK MATERIAL AROUND NOSE

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
410	F 5.0 MG/KG/DAY	NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
414	F 5.0 MG/KG/DAY	BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		DEAD	115	P SCHEDULED EUTHANASIA
416	F 5.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		BODY	50	P HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
416	F 5.0 MG/KG/DAY	BODY	80	1 HAI RLOSS
		BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS

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

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
416	F 5.0 MG/KG/DAY	BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		DEAD	118	P SCHEDULED EUTHANASIA
		BODY	43	1 HAIRLOSS
		BODY	50	P HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
BODY	80	1 HAIRLOSS		
BODY	81	1 HAIRLOSS		
BODY	82	1 HAIRLOSS		
BODY	88	1 HAIRLOSS		
BODY	89	1 HAIRLOSS		
BODY	90	1 HAIRLOSS		
BODY	91	1 HAIRLOSS		
BODY	92	1 HAIRLOSS		
BODY	93	1 HAIRLOSS		
BODY	94	1 HAIRLOSS		
BODY	95	1 HAIRLOSS		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
417	F 5.0 MG/KG/DAY	BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
436	F 5.0 MG/KG/DAY	BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		DEAD	116	P SCHEDULED EUTHANASIA
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	72	1 HAI RLOSS
BODY	73	1 HAI RLOSS		
BODY	74	1 HAI RLOSS		

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
436	F 5.0 MG/KG/DAY	BODY	75	1 HAIRLOSS
		BODY	76	1 HAIRLOSS
		BODY	77	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
		BODY	80	1 HAIRLOSS
		BODY	81	1 HAIRLOSS
		BODY	82	1 HAIRLOSS
		BODY	83	1 HAIRLOSS
		BODY	84	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
443	F 5.0 MG/KG/DAY	BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		NOSE/MOUTH	114	P DARK MATERIAL AROUND MOUTH
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		DEAD	115	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	64	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		NOSE/MOUTH	114	P DARK MATERIAL AROUND NOSE
451	F 5.0 MG/KG/DAY	DEAD	115	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
451 F	5.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
308 F	10.0 MG/KG/DAY	NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		DEAD	114	P SCHEDULED EUTHANASIA
318 F	10.0 MG/KG/DAY	NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		DEAD	116	P SCHEDULED EUTHANASIA
319 F	10.0 MG/KG/DAY	BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
	NOSE/MOUTH		99	P INCISOR(S) TRIMMED
	BODY		100	1 HAI RLOSS
	BODY		101	1 HAI RLOSS
	BODY		102	1 HAI RLOSS
	BODY		103	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS		
319 F	10.0 MG/KG/DAY	BODY	104	1 HAIRLOSS		
		BODY	105	1 HAIRLOSS		
		BODY	106	1 HAIRLOSS		
		BODY	107	1 HAIRLOSS		
		BODY	108	1 HAIRLOSS		
		BODY	109	1 HAIRLOSS		
		BODY	110	1 HAIRLOSS		
		BODY	111	1 HAIRLOSS		
		BODY	112	1 HAIRLOSS		
		BODY	113	1 HAIRLOSS		
		BODY	114	1 HAIRLOSS		
		BODY	115	1 HAIRLOSS		
		BODY	116	1 HAIRLOSS		
		BODY	117	1 HAIRLOSS		
		327 F	10.0 MG/KG/DAY	DEAD	117	1 P SCHEDULED EUTHANASIA
				EYES	71	P DARK MATERIAL AROUND EYE(S)
				EYES	78	P DARK MATERIAL AROUND EYE(S)
EYES	79			P DARK MATERIAL AROUND EYE(S)		
NOSE/MOUTH	99			P INCISOR(S) TRIMMED		
BODY	104			P RED AND SWOLLEN PINNA (E)		
DEAD	118			P SCHEDULED EUTHANASIA		
NOSE/MOUTH	99			P INCISOR(S) TRIMMED		
DEAD	118			P SCHEDULED EUTHANASIA		
BODY	64			1 HAIRLOSS		
333 F	10.0 MG/KG/DAY	BODY	71	1 HAIRLOSS		
		BODY	74	1 HAIRLOSS		
		BODY	75	1 HAIRLOSS		
		BODY	76	1 HAIRLOSS		
		BODY	77	1 HAIRLOSS		

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

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APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
333	F	BODY	78	1 HAI RLOSS
		BODY	79	1 HAI RLOSS
		BODY	80	1 HAI RLOSS
		BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	P SWELLING - LEFT INGUINAL MAMMARIES
		BODY	105	1 HAI RLOSS

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS		
333	F 10.0 MG/KG/DAY	BODY	106	1 HAIRLOSS		
		BODY	107	1 HAIRLOSS		
		BODY	108	1 HAIRLOSS		
		BODY	109	1 HAIRLOSS		
		BODY	110	1 HAIRLOSS		
		BODY	111	1 HAIRLOSS		
		BODY	112	1 HAIRLOSS		
		BODY	113	1 HAIRLOSS		
		BODY	114	1 HAIRLOSS		
		BODY	115	1 HAIRLOSS		
		BODY	116	1 HAIRLOSS		
		BODY	117	1 HAIRLOSS		
		336	F 10.0 MG/KG/DAY	DEAD	117	P SCHEDULED EUTHANASIA
				POST-DOSE OBS	2	P SALIVATION
				NOSE/MOUTH	99	P INCISOR(S) TRIMMED
				DEAD	118	P SCHEDULED EUTHANASIA
				NOSE/MOUTH	99	P INCISOR(S) TRIMMED
DEAD	115			P SCHEDULED EUTHANASIA		
NOSE/MOUTH	100			P INCISOR(S) TRIMMED		
BODY	104			P SWELLING - RIGHT INGUINAL MAMMARIES		
DEAD	115			P SCHEDULED EUTHANASIA		
NOSE/MOUTH	46			P MALALIGNMENT		
337	F 10.0 MG/KG/DAY	EYES	46	P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	50	P MALALIGNMENT		
		EYES	50	P DARK MATERIAL AROUND EYE(S)		
		EYES	57	P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	57	P DARK MATERIAL AROUND NOSE		
		NOSE/MOUTH	57	P MALALIGNMENT		
		NOSE/MOUTH	57	P INCISOR(S) TRIMMED		
		352	F 10.0 MG/KG/DAY	POST-DOSE OBS	2	P SCHEDULED EUTHANASIA
				NOSE/MOUTH	99	P INCISOR(S) TRIMMED
				DEAD	118	P SCHEDULED EUTHANASIA
NOSE/MOUTH	99			P INCISOR(S) TRIMMED		
DEAD	115			P SCHEDULED EUTHANASIA		
NOSE/MOUTH	100			P INCISOR(S) TRIMMED		
BODY	104			P SWELLING - RIGHT INGUINAL MAMMARIES		
DEAD	115			P SCHEDULED EUTHANASIA		
NOSE/MOUTH	46			P MALALIGNMENT		
EYES	46			P DARK MATERIAL AROUND EYE(S)		
358	F 10.0 MG/KG/DAY	EYES	46	P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	50	P MALALIGNMENT		
		EYES	50	P DARK MATERIAL AROUND EYE(S)		
		EYES	57	P DARK MATERIAL AROUND EYE(S)		
		NOSE/MOUTH	57	P DARK MATERIAL AROUND NOSE		
		NOSE/MOUTH	57	P MALALIGNMENT		
		NOSE/MOUTH	57	P INCISOR(S) TRIMMED		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
358	F 10.0 MG/KG/DAY	NOSE/MOUTH	75	P MALALIGNMENT
		NOSE/MOUTH	75	P INCISOR(S) MISSING
		NOSE/MOUTH	75	P INCISOR(S) TRIMMED
		NOSE/MOUTH	76	P MALALIGNMENT
		NOSE/MOUTH	76	P INCISOR(S) MISSING
		EYES	77	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	77	P INCISOR(S) MISSING
		NOSE/MOUTH	78	P INCISOR(S) MISSING
		EYES	79	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	79	P INCISOR(S) MISSING
		EYES	80	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	80	P INCISOR(S) MISSING
		EYES	81	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	81	P INCISOR(S) MISSING
		EYES	82	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	82	P INCISOR(S) MISSING
		EYES	83	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	83	P MALALIGNMENT
		NOSE/MOUTH	83	P INCISOR(S) MISSING
		EYES	84	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	84	P INCISOR(S) MISSING
		EYES	84	P MALALIGNMENT
		NOSE/MOUTH	85	P DARK MATERIAL AROUND EYE(S)
		EYES	85	P INCISOR(S) BROKEN
		NOSE/MOUTH	86	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	86	P INCISOR(S) BROKEN
		EYES	87	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	87	P INCISOR(S) MISSING
		EYES	88	P DARK MATERIAL AROUND EYE(S)

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

( POSITIVE FINDINGS )

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
358	F 10.0 MG/KG/DAY	NOSE/MOUTH	88	P INCISOR(S) MISSING
		NOSE/MOUTH	89	P INCISOR(S) MISSING
		EYES	89	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	90	P INCISOR(S) MISSING
		EYES	90	P DARK MATERIAL AROUND EYE(S)
		EYES	91	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	91	P INCISOR(S) MISSING
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	92	P INCISOR(S) MISSING
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	93	P INCISOR(S) MISSING
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	94	P INCISOR(S) MISSING
		EYES	95	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	95	P INCISOR(S) MISSING
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	96	P INCISOR(S) MISSING
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	97	P INCISOR(S) MISSING
		EYES	98	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	98	P INCISOR(S) MISSING
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	99	P INCISOR(S) TRIMMED
		NOSE/MOUTH	99	P INCISOR(S) MISSING
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	100	P INCISOR(S) MISSING
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	101	P INCISOR(S) MISSING
		EYES	102	P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
358	F 10.0 MG/KG/DAY	NOSE/MOUTH	102	P INCISOR(S) MISSING
		NOSE/MOUTH	103	P INCISOR(S) MISSING
		NOSE/MOUTH	104	P INCISOR(S) MISSING
		EYES	105	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	105	P INCISOR(S) MISSING
		EYES	106	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106	P INCISOR(S) MISSING
		EYES	107	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	107	P INCISOR(S) MISSING
		EYES	108	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	108	P INCISOR(S) MISSING
		EYES	109	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	109	P INCISOR(S) MISSING
		EYES	110	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	110	P INCISOR(S) MISSING
		EYES	111	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	111	P INCISOR(S) MISSING
		EYES	112	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	112	P INCISOR(S) MISSING
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113	P INCISOR(S) MISSING
		EYES	114	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	114	P INCISOR(S) MISSING
		EYES	115	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	115	P INCISOR(S) MISSING
		EYES	116	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	116	P INCISOR(S) MISSING
		EYES	117	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	117	P INCISOR(S) MISSING

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
358	F 10.0 MG/KG/DAY	EYES	118	P DARK MATERIAL AROUND EYE(S)
		DEAD	118	P SCHEDULED EUTHANASIA
362	F 10.0 MG/KG/DAY	NOSE/MOUTH	50	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
364	F 10.0 MG/KG/DAY	BODY	57	1 HAIRLOSS
		NOSE/MOUTH	93	P SCAB(S) - AROUND MOUTH
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
378	F 10.0 MG/KG/DAY	NOSE/MOUTH	93	P INCISOR(S) MISSING
		NOSE/MOUTH	94	P INCISOR(S) MISSING
		NOSE/MOUTH	95	P INCISOR(S) MISSING
		NOSE/MOUTH	96	P INCISOR(S) MISSING
		NOSE/MOUTH	97	P INCISOR(S) BROKEN
		NOSE/MOUTH	98	P INCISOR(S) BROKEN
		NOSE/MOUTH	98	P INCISOR(S) BROKEN
		NOSE/MOUTH	99	P INCISOR(S) BROKEN
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
394	F 10.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
		BODY	43	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		NOSE/MOUTH	100	P INCISOR(S) TRIMMED
395	F 10.0 MG/KG/DAY	DEAD	116	P SCHEDULED EUTHANASIA
		EXCRETA/EMESIS	97	P REDDISH COLORED VAGINAL DISCHARGE
		NOSE/MOUTH	98	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	98	P INCISOR(S) TRIMMED
		NOSE/MOUTH	99	P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	100	P DARK MATERIAL AROUND MOUTH

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
395	F 10.0 MG/KG/DAY	NOSE/MOUTH	107		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	108		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	109		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	111		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	112		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	113		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	114		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	115		P DARK MATERIAL AROUND MOUTH
		NOSE/MOUTH	116		P DARK MATERIAL AROUND MOUTH
		DEAD	117		P SCHEDULED EUTHANASIA
396	F 10.0 MG/KG/DAY	NOSE/MOUTH	99		P INCISOR(S) TRIMMED
		DEAD	118		P SCHEDULED EUTHANASIA
399	F 10.0 MG/KG/DAY	NOSE/MOUTH	98		P INCISOR(S) TRIMMED
		DEAD	115		P SCHEDULED EUTHANASIA
405	F 10.0 MG/KG/DAY	NOSE/MOUTH	98		P INCISOR(S) TRIMMED
		DEAD	116		P SCHEDULED EUTHANASIA
415	F 10.0 MG/KG/DAY	DEAD	115		P SCHEDULED EUTHANASIA
434	F 10.0 MG/KG/DAY	BODY	115		P RED AND SWOLLEN PINNA (E)
		DEAD	119		P SCHEDULED EUTHANASIA
435	F 10.0 MG/KG/DAY	DEAD	116		P SCHEDULED EUTHANASIA
437	F 10.0 MG/KG/DAY	NOSE/MOUTH	100		P INCISOR(S) TRIMMED
		DEAD	119		P SCHEDULED EUTHANASIA
438	F 10.0 MG/KG/DAY	NOSE/MOUTH	108		P INCISOR(S) TRIMMED
		DEAD	117		P SCHEDULED EUTHANASIA
441	F 10.0 MG/KG/DAY	NOSE/MOUTH	98		P INCISOR(S) TRIMMED
		NOSE/MOUTH	105		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	107		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	110		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	112		P DARK MATERIAL AROUND NOSE

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
441 F	10.0 MG/KG/DAY	NOSE/MOUTH	113	P DARK MATERIAL AROUND NOSE
		DEAD	117	P SCHEDULED EUTHANASIA
448 F	10.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	72	1 HAIRLOSS
		BODY	72	P RED AND SWOLLEN PINNA (E)
		BODY	73	1 HAIRLOSS
		BODY	73	P RED AND SWOLLEN PINNA (E)
		BODY	74	P RED AND SWOLLEN PINNA (E)
		BODY	74	1 HAIRLOSS
		BODY	75	1 HAIRLOSS
		BODY	75	P RED AND SWOLLEN PINNA (E)
		BODY	76	1 HAIRLOSS
		BODY	76	P RED AND SWOLLEN PINNA (E)
		BODY	77	1 HAIRLOSS
		BODY	77	P RED AND SWOLLEN PINNA (E)
		BODY	78	P RED AND SWOLLEN PINNA (E)
		BODY	78	1 HAIRLOSS
		BODY	79	1 HAIRLOSS
		BODY	80	1 HAIRLOSS
		BODY	80	P RED AND SWOLLEN PINNA (E)
		BODY	81	1 HAIRLOSS
		BODY	81	P RED AND SWOLLEN PINNA (E)
		BODY	82	1 HAIRLOSS
		BODY	82	P RED AND SWOLLEN PINNA (E)
		BODY	83	1 HAIRLOSS
		BODY	83	P RED AND SWOLLEN PINNA (E)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
448	F	10.0 MG/KG/DAY	84	1 HAIRLOSS
		BODY	84	P RED AND SWOLLEN PINNA(E)
		BODY	85	1 HAIRLOSS
		BODY	85	P RED AND SWOLLEN PINNA(E)
		BODY	86	1 HAIRLOSS
		BODY	86	P RED AND SWOLLEN PINNA(E)
		BODY	87	1 HAIRLOSS
		BODY	87	P RED AND SWOLLEN PINNA(E)
		BODY	88	1 HAIRLOSS
		BODY	88	P RED AND SWOLLEN PINNA(E)
		BODY	89	1 HAIRLOSS
		BODY	89	P RED AND SWOLLEN PINNA(E)
		BODY	90	1 HAIRLOSS
		BODY	90	P RED AND SWOLLEN PINNA(E)
		BODY	91	1 HAIRLOSS
		BODY	91	P RED AND SWOLLEN PINNA(E)
		BODY	92	1 HAIRLOSS
		BODY	92	P RED AND SWOLLEN PINNA(E)
		BODY	93	1 HAIRLOSS
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	94	1 HAIRLOSS
		BODY	94	P RED AND SWOLLEN PINNA(E)
		BODY	95	1 HAIRLOSS
		BODY	95	P RED AND SWOLLEN PINNA(E)
		BODY	96	1 HAIRLOSS
		BODY	96	P RED AND SWOLLEN PINNA(E)
		BODY	97	1 HAIRLOSS
		BODY	97	P RED AND SWOLLEN PINNA(E)
		BODY	98	1 HAIRLOSS

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



APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
448	F	10.0 MG/KG/DAY	98	P RED AND SWOLLEN PINNA(E)
		BODY	99	1 HAIRLOSS
		BODY	99	P RED AND SWOLLEN PINNA(E)
		BODY	100	1 HAIRLOSS
		BODY	100	P RED AND SWOLLEN PINNA(E)
		BODY	101	1 HAIRLOSS
		BODY	101	P RED AND SWOLLEN PINNA(E)
		BODY	102	1 HAIRLOSS
		BODY	102	P RED AND SWOLLEN PINNA(E)
		BODY	103	1 HAIRLOSS
		BODY	103	P RED AND SWOLLEN PINNA(E)
		BODY	104	1 HAIRLOSS
		BODY	104	P RED AND SWOLLEN PINNA(E)
		BODY	105	1 HAIRLOSS
		BODY	105	P RED AND SWOLLEN PINNA(E)
		BODY	106	P RED AND SWOLLEN PINNA(E)
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	107	P RED AND SWOLLEN PINNA(E)
		BODY	108	1 HAIRLOSS
		BODY	108	P RED AND SWOLLEN PINNA(E)
		BODY	109	1 HAIRLOSS
		BODY	109	P RED AND SWOLLEN PINNA(E)
		BODY	110	P RED AND SWOLLEN PINNA(E)
		BODY	110	1 HAIRLOSS
		BODY	111	P RED AND SWOLLEN PINNA(E)
		BODY	111	1 HAIRLOSS
		BODY	112	P RED AND SWOLLEN PINNA(E)
		BODY	112	1 HAIRLOSS
		BODY	113	P RED AND SWOLLEN PINNA(E)
		BODY	113	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
448	F 10.0 MG/KG/DAY	BODY	114	P RED AND SWOLLEN PINNA(E)
		BODY	115	1 HAIRLOSS
		BODY	115	P RED AND SWOLLEN PINNA(E)
		BODY	116	1 HAIRLOSS
		BODY	116	P RED AND SWOLLEN PINNA(E)
		DEAD	116	P SCHEDULED EUTHANASIA
		BODY	96	P EXTREMITIES - PALE IN COLOR
		EYES	96	P EYE(S) PALE IN COLOR
		OTHER	97	P TWO ADDITIONAL PUPS WERE FOUND DEAD ON LACTATION DAY 2
		452	F 10.0 MG/KG/DAY	BODY
EYES	97			P EYE(S) PALE IN COLOR
BODY	98			P EXTREMITIES - PALE IN COLOR
EYES	98			P EYE(S) PALE IN COLOR
BODY	99			P EXTREMITIES - PALE IN COLOR
EYES	99			P EYE(S) PALE IN COLOR
NOSE/MOUTH	99			P DARK MATERIAL AROUND MOUTH
BODY	100			P EXTREMITIES - PALE IN COLOR
EYES	100			P EYE(S) PALE IN COLOR
NOSE/MOUTH	100			P DARK MATERIAL AROUND MOUTH
626	F 10.0 MG/KG/DAY	NOSE/MOUTH	98	P INCISOR(S) TRIMMED
		DEAD	115	P SCHEDULED EUTHANASIA
		BODY	43	1 HAIRLOSS
627	F 10.0 MG/KG/DAY	BODY	50	P HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	72	1 HAIRLOSS
		NOSE/MOUTH	72	P SCAB(S) - AROUND MOUTH

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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APPENDIX C

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
627	F	10.0 MG/KG/DAY	73	1 HAI RLOSS
		NOSE/MOUTH	73	P SCAB(S) - AROUND MOUTH
		BODY	74	1 HAI RLOSS
		NOSE/MOUTH	74	P SCAB(S) - AROUND MOUTH
		BODY	75	1 HAI RLOSS
		NOSE/MOUTH	75	P SCAB(S) - AROUND MOUTH
		BODY	76	1 HAI RLOSS
		BODY	77	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	79	1 HAI RLOSS
		BODY	80	1 HAI RLOSS
		BODY	81	1 HAI RLOSS
		BODY	82	1 HAI RLOSS
		BODY	83	1 HAI RLOSS
		BODY	84	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
627 F	10.0 MG/KG/DAY	NOSE/MOUTH	98	P INCISOR(S) TRIMMED
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		DEAD	114	P SCHEDULED EUTHANASIA

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

(317)

SLI Study No. 3472.4

## APPENDIX D

Individual F0 Body Weight Data



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

WEEK	11	12	13	14	15	16
21621 M	443	452	469	483	489	492
21623 M	482	489	504	509	518	529
21625 M	476	480	498	512	518	525
21630 M	547	558	572	577	586	600
21636 M	438	441	447	456	456	459
21638 M	451	454	457	461	468	467
21639 M	479	483	491	497	505	511
21640 M	453	461	470	480	473	475
21646 M	503	505	517	526	532	537
21647 M	500	503	518	534	543	560
21649 M	484	478	479	491	503	517
21652 M	466	464	472	482	487	497
21656 M	524	524	538	562	580	595
21660 M	512	513	516	532	539	556
21665 M	508	511	524	537	535	543
21673 M	500	515	525	529	540	540
21686 M	507	513	528	546	562	568
21688 M	565	579	595	620	621	639
21695 M	451	462	475	480	492	497
21703 M	549	550	568	586	576	585
21709 M	550	556	571	580	591	594
21719 M	555	569	580	597	601	621
21721 M	477	483	496	508	502	516
21723 M	463	470	478	487	493	500
21729 M	471	479	494	502	507	518
21738 M	536	538	559	560	574	582
21739 M	513	520	526	528	534	524
21761 M	475	482	489	502	499	505
MEAN	496	501	513	524	529	538
S. D.	36.7	37.8	40.1	42.1	43.4	46.7
N	28	28	28	28	28	28

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
21611 M	225	281	326	364	402	419	435	461	471	487
21612 M	231	279	328	371	396	423	437	467	483	489
21617 M	238	291	348	382	408	435	456	484	484	502
21618 M	239	290	330	363	394	403	427	454	472	498
21620 M	242	294	339	376	401	423	443	464	481	499
21631 M	237	286	330	373	412	431	445	469	493	508
21633 M	226	264	294	331	356	374	392	409	423	437
21641 M	234	281	322	358	387	414	428	448	458	480
21644 M	218	260	299	332	356	381	394	424	424	440
21657 M	230	281	331	370	400	421	440	467	480	440
21664 M	215	263	304	342	367	393	405	424	440	459
21668 M	222	267	314	347	386	414	427	447	458	484
21679 M	239	287	326	367	400	412	432	474	490	490
21681 M	245	285	282	364	388	412	430	442	452	466
21685 M	217	249	282	322	352	377	393	415	431	454
21689 M	247	298	342	384	419	447	463	484	511	534
21690 M	242	295	333	364	394	423	440	459	469	489
21705 M	209	256	297	325	343	360	380	391	400	404
21713 M	221	267	311	350	375	403	423	450	468	473
21714 M	234	290	332	368	399	421	427	470	493	493
21717 M	213	260	296	325	355	369	383	401	423	439
21735 M	227	269	304	338	363	376	399	410	426	434
21736 M	220	272	312	352	386	409	431	454	476	495
21737 M	251	299	339	380	410	430	445	476	492	517
21741 M	229	270	308	338	366	378	404	417	429	448
21748 M	246	296	340	376	407	431	454	480	487	509
21749 M	240	294	342	376	407	428	444	471	487	508
21757 M	225	275	317	345	371	391	406	429	403	433
MEAN	231	279	319	357	386	407	424	446	459	477
S. D.	11.4	14.2	18.4	19.1	21.4	23.2	23.0	26.5	29.4	31.6
N	28	28	28	28	28	28	28	28	28	27

FOUND DEAD



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

APPENDIX D

GROUP 2: 1.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
21611 M	496	500	521	534	540	546
21612 M	499	519	531	549	555	567
21617 M	513	520	524	531	542	550
21618 M	506	514	527	535	545	568
21620 M	511	516	525	534	530	540
21631 M	523	532	549	559	571	589
21633 M	449	459	474	481	490	486
21641 M	495	501	508	514	519	523
21644 M	444	437	457	465	478	479
21657 M	FOUND DEAD					
21664 M	467	473	468	468	472	479
21668 M	489	491	507	521	525	531
21679 M	491	499	505	519	518	519
21681 M	471	479	483	490	498	506
21685 M	469	463	483	493	510	522
21689 M	558	575	585	596	615	633
21690 M	500	510	522	537	536	546
21705 M	414	414	412	421	426	433
21713 M	484	493	498	512	517	519
21714 M	506	518	526	538	550	554
21717 M	451	450	459	474	477	488
21735 M	445	458	459	468	458	459
21736 M	512	517	523	509	531	538
21737 M	536	543	549	563	568	574
21741 M	458	474	491	496	506	507
21748 M	519	523	531	545	556	571
21749 M	526	536	546	550	555	558
21757 M	456	468	487	488	490	497
MEAN	488	496	506	514	521	529
S. D.	33.3	35.8	36.6	37.9	40.1	43.3
N	27	27	27	27	27	27



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

APPENDIX D

GROUP 3: 2.5 MG/KG/DAY

WEEK	11	12	13	14	15	16
21613 M	602	613	628	636	639	644
21624 M	482	481	489	498	500	495
21632 M	513	506	517	534	537	541
21650 M	493	480	503	511	501	514
21658 M	478	463	474	488	491	499
21659 M	478	493	506	519	527	547
21662 M	426	439	444	458	469	463
21663 M	469	476	487	500	502	509
21669 M	553	562	577	588	594	597
21671 M	552	558	566	582	599	609
21682 M	527	535	553	581	591	605
21691 M	499	509	521	532	537	538
21696 M	549	559	570	587	589	599
21698 M	560	559	570	589	589	593
21699 M	474	480	487	504	516	523
21701 M	479	493	499	508	508	519
21706 M	500	507	518	528	536	544
21708 M	502	507	521	534	543	549
21718 M	538	534	545	553	567	575
21722 M	411	422	435	452	453	457
21732 M	481	494	504	516	528	548
21734 M	432	445	451	458	456	467
21744 M	569	569	582	601	597	611
21751 M	490	500	500	512	513	522
21755 M	481	495	505	516	522	524
21762 M	495	500	511	525	538	546
21763 M	415	426	424	433	439	451
21764 M	492	491	497	511	516	493
MEAN	497	503	514	527	532	539
S. D.	47.0	45.4	47.6	48.8	49.5	51.2
N	28	28	28	28	28	28



APPENDIX D  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
21616 M	598	605	612	631	630	638
21619 M	531	535	544	547	548	565
21634 M	508	523	540	562	570	577
21635 M	501	508	517	522	521	533
21637 M	491	504	520	529	533	554
21642 M	414	416	425	432	428	441
21643 M	519	527	535	554	563	565
21645 M	454	460	459	464	461	452
21651 M	435	440	446	463	463	470
21654 M	452	FOUND DEAD				
21661 M	538	546	562	579	588	597
21666 M	499	511	517	536	543	556
21672 M	465	470	478	489	494	504
21674 M	644	653	667	694	697	707
21677 M	470	477	492	508	509	517
21680 M	537	542	556	569	574	582
21684 M	470	472	478	486	487	491
21687 M	461	470	486	502	509	510
21694 M	528	523	538	557	565	585
21702 M	465	474	491	498	503	507
21704 M	431	438	454	465	466	475
21711 M	498	504	522	530	528	540
21725 M	506	518	534	546	558	562
21728 M	475	482	488	496	500	520
21743 M	488	495	505	515	517	534
21750 M	564	567	575	580	578	578
21759 M	445	464	470	480	481	491
21765 M	438	453	465	471	467	466
MEAN	494	503	514	526	529	538
S. D.	51.9	51.8	52.8	56.2	57.7	59.0
N	28	27	27	27	27	27



APPENDIX D  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
21614 M	518	536	548	544	543	553
21627 M	444	451	470	477	480	493
21628 M	418	426	431	434	441	441
21629 M	552	557	569	580	582	598
21648 M	453	463	476	477	483	484
21667 M	506	511	523	532	535	548
21670 M	484	502	518	543	548	562
21676 M	546	549	573	585	575	611
21683 M	512	522	536	534	545	545
21692 M	515	509	524	541	533	540
21693 M	521	526	529	540	544	552
21707 M	461	472	488	492	494	502
21710 M	499	504	520	520	522	540
21715 M	435	442	411	431	434	440
21716 M	413	424	431	439	441	447
21720 M	494	496	499	511	513	519
21724 M	453	462	484	491	500	507
21726 M	482	487	507	520	523	533
21727 M	537	541	552	560	565	570
21730 M	488	482	486	495	504	506
21740 M	481	484	497	494	497	503
21745 M	486	491	498	506	514	520
21746 M	453	458	473	478	482	489
21752 M	484	490	494	507	504	516
21754 M	508	514	521	525	537	542
21756 M	458	458	466	478	479	485
21758 M	517	520	523	538	539	545
21760 M	477	482	490	501	502	504
MEAN	486	491	501	510	512	521
S. D.	36.3	35.5	39.2	39.2	38.5	42.0
N	28	28	28	28	28	28





SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

WEEK	11	12	13	14	15	16
306 F	282					
311 F	265					
317 F	263					
321 F	306	267				
323 F	282					
341 F	280					
345 F	360					
348 F	258					
353 F	265					
355 F	284		318	365		
369 F	322	340	366	394	353	356
371 F	279					
380 F	268	296	303	298	303	303
383 F	288					
384 F	298					
387 F	302					
388 F	274					
390 F	274					
400 F	251					
403 F	286					
408 F	250					
420 F	279					
425 F	256					
426 F	261					
427 F	298					
449 F	289					
450 F	294					
628 F	287					

MEAN	282	299	329	352	328	330
S. D.	23.1	30.4	32.9	49.2	--	--
N	28	4	3	3	2	2

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX F. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
310 F	238					
312 F	238					
313 F	233					
314 F	302					
324 F	297					
325 F	274					
329 F	309					
339 F	265					
354 F	332					
363 F	304					
370 F	253					
377 F	309					
397 F	272					
406 F	327					
409 F	266					
411 F	260					
413 F	323					
419 F	272					
422 F	265					
423 F	238					
428 F	295					
429 F	282					
430 F	274					
431 F	275					
433 F	333					
440 F	271					
447 F	291					
629 F	293					

MEAN 282  
S. D. 28.9  
N 28

NOTE: BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX F. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.



APPENDIX D  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

WEEK	11	12	13	14	15	16
304 F	276					
307 F	263					
332 F	316					
338 F	247					
340 F	263					
342 F	249					
343 F	281					
351 F	357					
356 F	288					
357 F	288					
359 F	337					
367 F	272					
368 F	260					
372 F	305					
373 F	310					
379 F	291					
382 F	267					
385 F	280					
401 F	249					
404 F	254					
412 F	272	295	297	295	287	293
418 F	257					
421 F	278					
432 F	269					
439 F	315					
444 F	265					
445 F	267					
625 F	236					
MEAN	279	295	297	295	287	293
S. D.	28.2	--	--	--	--	--
N	28	1	1	1	1	1

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX F. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.



APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
303 F	273					
309 F	234					
316 F	301					
320 F	289					
326 F	284					
328 F	261					
330 F	274					
344 F	279					
346 F	278					
347 F	327					
350 F	246					
360 F	264					
361 F	312					
365 F	282					
374 F	265					
375 F	306					
381 F	275					
389 F	219					
393 F	263					
398 F	235					
402 F	295					
410 F	265					
414 F	313					
416 F	283					
417 F	303					
436 F	302					
443 F	245					
451 F	324					

MEAN 278  
S. D. 27.5  
N 28

NOTE: BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX F. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.





APPENDIX D  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	11	12	13	14	15	16
308 F	304					
318 F	283					
319 F	264					
327 F	279					
331 F	260					
333 F	253					
336 F	270					
337 F	273					
352 F	277					
358 F	309					
362 F	295					
364 F	246					
378 F	284					
394 F	270					
395 F	256					
396 F	302					
399 F	269					
405 F	264					
415 F	263					
434 F	308					
435 F	288					
437 F	306					
438 F	268					
441 F	280					
448 F	341					
452 F	257					
626 F	285					
627 F	288					

MEAN 280  
S. D. 21.3  
N 28

NOTE: BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX F. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

SLI Study No. 3472.4

APPENDIX E

Individual F0 Body Weight Gain Data



APPENDIX E  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK 11 TO 12 12 TO 13 13 TO 14 14 TO 15 15 TO 16

21621 M	9	17	14	6	3
21623 M	7	15	5	9	11
21625 M	4	18	14	6	7
21630 M	11	14	5	9	14
21636 M	3	6	15	-6	3
21638 M	3	3	4	7	-1
21639 M	4	8	6	8	6
21640 M	8	9	10	-7	2
21646 M	2	12	9	6	5
21647 M	3	15	16	9	17
21649 M	-6	1	12	12	14
21652 M	-2	8	10	5	10
21656 M	0	14	24	18	15
21660 M	1	3	16	7	17
21665 M	3	13	13	-2	8
21673 M	15	10	4	11	0
21686 M	6	15	18	16	6
21688 M	14	16	25	1	18
21695 M	11	13	5	12	5
21703 M	1	18	18	-10	9
21709 M	6	15	9	11	3
21719 M	14	11	17	4	20
21721 M	6	13	12	-6	14
21723 M	7	8	9	6	7
21729 M	8	15	8	5	11
21738 M	2	21	1	14	8
21739 M	7	6	2	6	-10
21761 M	7	7	13	-3	6
MEAN	6	12	11	6	8
S. D.	4.9	5.0	6.2	7.1	6.7
N	28	28	28	28	28

APPENDIX E  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21611 M	56	45	38	38	17	16	38	17	17	16	16	26	26	10	10	16	16	9		
21612 M	48	49	43	43	27	14	25	27	27	14	14	30	30	16	16	6	6	10		
21617 M	53	49	42	42	27	17	26	27	27	17	17	17	17	11	11	18	18	11		
21618 M	51	40	33	33	9	24	31	9	9	24	24	27	27	18	18	26	26	8		
21620 M	52	45	37	37	22	14	20	22	22	14	14	21	21	17	17	18	18	12		
21631 M	49	44	43	43	19	14	39	19	19	14	14	24	24	24	24	15	15	15		
21633 M	38	30	37	37	18	18	25	18	18	18	18	17	17	14	14	14	14	12		
21641 M	47	41	36	36	27	14	29	27	27	14	14	20	20	10	10	22	22	15		
21644 M	42	39	33	33	24	13	24	24	24	13	13	14	14	16	16	16	16	4		
21657 M	51	50	39	39	21	19	30	21	21	19	19	27	27	13	13	FOUND DEAD	FOUND DEAD			
21664 M	48	41	38	38	26	12	25	26	26	12	12	19	19	16	16	19	19	8		
21668 M	45	47	33	33	28	13	39	28	28	13	13	20	20	11	11	26	26	5		
21679 M	48	39	41	41	33	20	33	33	33	20	20	19	19	23	23	16	16	1		
21681 M	40	-3	82	82	24	18	24	24	24	18	18	12	12	10	10	14	14	5		
21685 M	32	33	40	40	25	16	30	25	25	16	16	22	22	16	16	23	23	15		
21689 M	51	44	42	42	28	16	35	28	28	16	16	21	21	27	27	23	23	24		
21690 M	53	38	31	31	29	17	30	29	29	17	17	19	19	10	10	20	20			
21705 M	47	41	28	28	17	20	18	17	17	20	20	11	11	9	9	4	4	10		
21713 M	46	44	39	39	28	20	25	28	28	20	20	27	27	18	18	5	5	11		
21714 M	56	42	36	36	14	6	31	14	14	6	6	29	29	14	14	23	23	13		
21717 M	47	36	29	29	22	14	30	22	22	14	14	18	18	22	22	16	16	12		
21735 M	42	35	34	34	13	23	25	13	13	23	23	11	11	16	16	8	8	11		
21736 M	52	40	40	40	23	22	34	23	23	22	22	23	23	22	22	19	19	17		
21737 M	48	40	41	41	20	15	30	20	20	15	15	31	31	16	16	25	25	19		
21741 M	41	38	30	30	12	26	28	12	12	26	26	13	13	12	12	19	19	10		
21748 M	50	44	36	36	24	23	31	24	24	23	23	26	26	7	7	22	22	10		
21749 M	54	48	34	34	21	16	31	21	21	16	16	27	27	16	16	21	21	18		
21757 M	50	42	28	28	20	15	26	20	20	15	15	23	23	-26	-26	30	30	23		
MEAN	48	40	38	38	21	17	29	21	21	17	17	21	21	14	14	18	18	12		
S. D.	5.6	9.7	9.7	9.7	5.7	4.3	5.0	5.7	5.7	4.3	4.3	5.8	5.8	9.2	9.2	6.5	6.5	5.4		
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27		

APPENDIX E  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21611 M	4		21	13		6		6		6
21612 M	20		12	18		6		12		12
21617 M	7		4	7		11		8		8
21618 M	8		13	8		10		23		23
21620 M	5		9	9		-4		10		10
21631 M	9		17	10		12		18		18
21633 M	10		15	7		9		-4		-4
21641 M	6		7	6		5		4		4
21644 M	-7		20	8		13		1		1
21657 M	FOUND DEAD									
21664 M	6		-5	0		4		7		7
21668 M	2		16	14		4		6		6
21679 M	8		6	14		-1		1		1
21681 M	8		4	7		8		8		8
21685 M	-6		20	10		17		12		12
21689 M	17		10	11		19		18		18
21690 M	10		12	15		-1		10		10
21705 M	0		-2	9		5		7		7
21713 M	9		5	14		5		2		2
21714 M	12		8	12		12		4		4
21717 M	-1		9	15		3		11		11
21735 M	13		1	9		-10		1		1
21736 M	5		6	-14		22		7		7
21737 M	7		6	14		5		6		6
21741 M	16		17	5		10		1		1
21748 M	4		8	14		11		15		15
21749 M	10		10	4		5		3		3
21757 M	12		19	1		2		7		7
MEAN	7		10	9		7		8		8
S. D.	6.2		6.8	6.3		6.9		6.1		6.1
N	27		27	27		27		27		27



APPENDIX E  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21613 M	11		15	8		3		5		
21624 M	-1		8	9		2		-5		
21632 M	-7		11	17		3		4		
21650 M	-13		23	8		-10		13		
21658 M	4		11	14		3		8		
21659 M	15		13	13		8		20		
21662 M	13		5	14		11		-6		
21663 M	7		11	13		2		7		
21669 M	9		15	11		6		3		
21671 M	6		8	16		17		10		
21682 M	8		18	28		10		14		
21691 M	10		12	11		5		1		
21696 M	10		11	17		2		10		
21698 M	-1		11	19		0		4		
21699 M	6		7	17		12		7		
21701 M	14		6	9		0		11		
21706 M	7		11	10		8		8		
21708 M	5		14	13		9		6		
21718 M	-4		11	8		14		8		
21722 M	11		13	17		1		4		
21732 M	13		10	12		12		20		
21734 M	13		6	7		-2		11		
21744 M	0		13	19		-4		14		
21751 M	10		0	12		1		9		
21755 M	14		10	11		6		2		
21762 M	5		11	14		13		8		
21763 M	11		-2	9		6		12		
21764 M	-1		6	14		5		-23		
MEAN	6		10	13		5		7		
S. D.	7.0		5.0	4.5		6.0		8.3		
N	28		28	28		28		28		





SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

APPENDIX E

GROUP 4: 5.0 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21616 M	7		7	19		-1			8	
21619 M	4		9	3		1			17	
21634 M	15		17	22		8			7	
21635 M	7		9	5		-1			12	
21637 M	13		16	9		4			21	
21642 M	2		9	7		-4			13	
21643 M	8		8	19		9			2	
21645 M	6		-1	5		-3			-9	
21651 M	5		6	17		0			7	
21654 M	-43		FOUND DEAD							
21661 M	8		16	17		9			9	
21666 M	12		6	19		7			13	
21672 M	5		8	11		5			10	
21674 M	9		14	27		3			10	
21677 M	7		15	16		1			8	
21680 M	5		14	13		5			8	
21684 M	2		6	8		1			4	
21687 M	9		16	16		7			1	
21694 M	-5		15	19		8			20	
21702 M	9		17	7		5			4	
21704 M	7		16	11		1			9	
21711 M	6		18	8		-2			12	
21725 M	12		16	12		12			4	
21728 M	7		6	8		4			20	
21743 M	7		10	10		2			17	
21750 M	3		8	5		-2			0	
21759 M	19		6	10		1			10	
21765 M	15		12	6		-4			-1	
MEAN	6		11	12		3			9	
S. D.	10.6		4.9	6.2		4.4			7.0	
N	28		27	27		27			27	



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

APPENDIX E

GROUP 5: 10.0 MG/KG/DAY

	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21614 M	18		12	19	-4		-1		10	
21627 M	7		19	7			3		13	
21628 M	8		5	6			-3		7	
21629 M	5		12	11			2		16	
21648 M	10		13	1			6		1	
21667 M	5		12	9			3		13	
21670 M	18		16	25			5		14	
21676 M	3		24	12			-10		36	
21683 M	10		14	-2			1		10	
21692 M	-6		15	17			-8		7	
21693 M	5		3	11			4		8	
21707 M	11		16	4			2		8	
21710 M	5		16	0			2		18	
21715 M	7		-31	20			3		6	
21716 M	11		7	8			2		6	
21720 M	2		3	12			2		6	
21724 M	9		22	7			9		7	
21726 M	5		20	13			3		10	
21727 M	4		11	8			5		5	
21730 M	-6		4	9			9		2	
21740 M	3		13	-3			3		6	
21745 M	5		7	8			8		6	
21746 M	5		15	5			4		7	
21752 M	6		4	13			-3		12	
21754 M	6		7	4			12		5	
21756 M	0		8	12			1		6	
21758 M	3		3	15			1		6	
21760 M	5		8	11			1		2	
MEAN	6		10	9			2		9	
S. D.	5.3		10.0	6.7			4.7		6.7	
N	28		28	28			28		28	



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

PAGE 12

APPENDIX E

GROUP 1: 0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16
317 F	4				
355 F	7	27	47		
369 F	18	26	28	-41	3
383 F	8	7	-5	5	0
MEAN	9	20	23	-18	2
S. D.	6.1	11.3	26.3	--	--
N	4	3	3	2	2

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX G. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.







SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX E  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO BODY WEIGHT GAIN DATA (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16
412 F	23		2		-2		-8		6	
MEAN	23		2		-2		-8		6	
S. D.	--		--		--		--		--	
N	1		1		1		1		1	

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX G. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.





SLI Study No. 3472.4

APPENDIX F

Individual F0 Gestation Body Weight Data

APPENDIX F  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	24
306 G	277	302	326	360	
311 G	266	289	316	389	
317 G	268	288	309	370	
321 G	298	328	352	422	
323 G	277	302	335	415	
341 G	281	315	348	406	
345 G	355	377	424	481	
348 G	258	286	309	355	
353 G	268	288	318	384	
371 G	279	302	324	354	
380 G	257	298	327	391	
384 G	286	313	343	404	
387 NG	295	321	340	314	
388 G	263	295	325	387	
390 G	274	298	322	382	
400 G	247	272	304	357	
403 G	280	311	342	402	
408 G	242	266	287	344	
420 G	277	300	322	360	
425 G	259	276	300	358	
426 G	263	281	315	388	
427 G	296	332	363	433	
449 G	294	312	346	411	
450 G	294	317	343	411	
628 G	279	305	334	387	
MEAN	277	302	331	390	
S. D.	22.3	23.0	26.9	31.2	
N	24	24	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX F  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	26
310 G	234	255	275	321	
312 G	238	261	285	342	
313 G	229	253	278	320	
314 G	290	318	349	413	
324 G	290	317	330	388	
325 G	267	297	325	376	
329 G	305	326	359	416	
339 G	252	282	316	350	
354 G	332	355	384	442	
363 G	304	335	364	433	
370 NG	247	272	273	273	
377 G	305	333	366	433	
397 G	271	294	320	377	
406 G	328	351	384	451	
409 G	268	285	318	384	
411 G	254	281	311	374	
413 G	325	360	386	455	
419 G	273	297	332	399	
422 G	267	292	322	373	
423 G	229	255	280	342	
428 G	281	320	353	428	
429 G	279	309	335	407	
430 G	275	300	329	396	
431 G	270	297	322	402	
433 NG	324	356	367	354	
440 G	254	286	316	380	
447 G	294	321	352	435	
629 G	280	311	344	417	
MEAN	277	304	332	394	
S. D.	28.9	30.0	31.7	38.3	
N	26	26	26	26	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX F  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
304 G	272	297	334	401	
307 G	265	284	310	382	
332 G	325	354	384	422	
338 G	250	278	302	371	
340 G	258	285	314	379	
342 G	253	276	297	340	
343 G	281	311	328	393	
351 G	332	385	413	484	
356 G	285	305	331	396	
357 G	285	300	329	388	
359 G	323	358	386	460	
367 G	265	298	326	381	
368 G	254	282	310	374	
372 G	304	329	358	423	
373 G	302	329	361	426	
379 NG	282	313	303	297	
382 G	258	287	311	362	
385 G	287	301	315	354	
401 NG	247	267	280	269	
404 G	247	273	307	386	
418 G	255	281	307	367	
421 G	281	317	339	411	
432 G	266	286	318	385	
439 G	304	340	378	451	
444 G	257	281	311	392	
445 G	264	283	315	387	
625 G	236	259	286	342	
MEAN	276	303	331	394	
S. D.	26.1	30.7	31.8	35.0	
N	25	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX F  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
G	276	296	321	384	
303					
NG	239	246	260	UNSCHEDULED EUTHANASIA - HUMANE REASONS	
309					
G	290	317	340	401	
316					
G	281	295	296	289	
320					
NG	280	306	331	402	
326					
G	267	301	326	382	
328					
G	267	289	315	333	
330					
G	270	294	325	386	
344					
G	288	302	341	414	
346					
G	329	357	371	440	
347					
G	243	263	288	343	
350					
G	268	292	320	366	
360					
G	323	346	385	448	
361					
G	278	304	335	388	
365					
G	261	288	312	378	
374					
G	309	334	359	427	
375					
G	269	295	322	393	
381					
G	219	242	269	328	
389					
G	267	289	319	388	
393					
G	238	256	283	339	
398					
G	288	317	351	409	
402					
G	262	284	308	373	
410					
G	318	344	374	426	
414					
G	278	306	337	396	
416					
G	290	317	353	430	
417					
G	297	326	351	405	
436					
G	242	263	287	342	
443					
G	327	344	374	458	
451					
MEAN	279	303	331	392	
S. D.	27.7	28.7	29.7	35.5	
N	26	26	26	26	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN



SLI STUDY NO.: 3472.4  
 CLIENT: NIPIERA, INC.  
 APPENDIX F  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION BODY WEIGHT DATA (GRAMS)

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
G	297	333	353	433	
G	277	302	336	386	
G	261	283	311	365	
G	280	310	336	372	
G	260	288	319	378	
G	250	269	287	340	
G	269	299	327	393	
G	271	293	313	377	
G	274	297	326	383	
G	307	335	380	444	
G	295	316	332	357	
G	248	278	303	365	
G	280	321	359	405	
G	267	283	322	380	
G	252	279	306	365	
G	310	346	381	461	
G	268	299	337	393	
G	263	286	310	361	
G	267	293	325	393	
G	307	332	371	438	
G	283	305	339	409	
G	317	346	389	467	
G	267	287	324	402	
G	274	296	325	387	
G	340	380	418	443	
G	249	281	312	385	
G	279	321	345	396	
G	286	314	339	387	
MEAN	279	306	337	395	
S. D.	22.3	25.7	29.5	32.2	
N	28	28	28	28	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI Study No. 3472.4

APPENDIX G

Individual F0 Gestation Body Weight Gain Data

APPENDIX G  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
306 G	25	24	34	
311 G	23	27	73	
317 G	20	21	61	
321 G	30	24	70	
323 G	25	33	80	
341 G	34	33	58	
345 G	22	47	57	
348 G	28	23	46	
353 G	20	30	66	
371 G	23	22	30	
380 G	41	29	64	
384 G	27	30	61	
387 NG	26	19	-26	
388 G	32	30	62	
390 G	24	24	60	
400 G	25	32	53	
403 G	31	31	60	
408 G	24	21	57	
420 G	23	22	38	
425 G	17	24	58	
426 G	18	34	73	
427 G	36	31	70	
449 G	18	34	65	
450 G	23	26	68	
628 G	26	29	53	
MEAN	26	28	59	
S. D.	5.9	5.9	12.2	
N	24	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX G  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
310 G	21	20	46	
312 G	23	24	57	
313 G	24	25	42	
314 G	28	31	64	
324 G	27	13	58	
325 G	30	28	51	
329 G	21	33	57	
339 G	30	34	34	
354 G	23	29	58	
363 G	31	29	69	
370 NG	25	1	0	
377 G	28	33	67	
397 G	23	26	57	
406 G	23	33	67	
409 G	17	33	66	
411 G	27	30	63	
413 G	35	26	69	
419 G	24	35	67	
422 G	25	30	51	
423 G	26	25	62	
428 G	39	33	75	
429 G	30	26	72	
430 G	25	29	67	
431 G	27	25	80	
433 NG	32	11	-13	
440 G	32	30	64	
447 G	27	31	83	
629 G	31	33	73	
MEAN	27	29	62	
S. D.	4.7	4.9	11.3	
N	26	26	26	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX G  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
G	25	37	67	
G	19	26	72	
G	29	30	38	
G	28	24	69	
G	27	29	65	
G	23	21	43	
G	30	17	65	
G	53	28	71	
G	20	26	65	
G	15	29	59	
G	35	28	74	
G	33	28	55	
G	28	28	64	
G	25	29	65	
G	27	32	65	
NG	31	-10	-6	
G	29	24	51	
G	14	14	39	
NG	20	13	-11	
G	26	34	79	
G	26	26	60	
G	36	22	72	
G	20	32	67	
G	36	38	73	
G	24	30	81	
G	19	32	72	
G	23	27	56	
MEAN	27	28	63	
S. D.	8.0	5.5	11.3	
N	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX G  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	DAY			14-20
	0-7	7-14	14-20	
303 G	20	25	63	
309 NG	7	14	UNSCHEDULED EUTHANASIA - HUMANE REASONS	
316 G	27	23	61	
320 NG	14	1	-7	
326 G	26	25	71	
328 G	34	25	56	
330 G	22	26	18	
344 G	24	31	61	
346 G	14	39	73	
347 G	28	14	69	
350 G	20	25	55	
360 G	24	28	46	
361 G	23	39	63	
365 G	26	31	53	
374 G	27	24	66	
375 G	25	25	68	
381 G	26	27	71	
389 G	23	27	59	
393 G	22	30	69	
398 G	18	27	56	
402 G	29	34	58	
410 G	22	24	65	
414 G	26	30	52	
416 G	28	31	59	
417 G	27	36	77	
436 G	29	25	54	
443 G	21	24	55	
451 G	17	30	84	
MEAN	24	28	61	
S. D.	4.3	5.3	12.3	
N	26	26	26	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX G  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
308 G	36	20	80	
318 G	25	34	50	
319 G	22	28	54	
327 G	30	26	36	
331 G	28	31	59	
333 G	19	18	53	
336 G	30	28	66	
337 G	22	20	64	
352 G	23	29	57	
358 G	28	45	64	
362 G	21	16	25	
364 G	30	25	62	
378 G	41	38	46	
394 G	16	39	58	
395 G	27	27	59	
396 G	36	35	80	
399 G	31	38	56	
405 G	23	24	51	
415 G	26	32	68	
434 G	25	39	67	
435 G	22	34	70	
437 G	29	43	78	
438 G	20	37	78	
441 G	22	29	62	
448 G	40	38	25	
452 G	32	31	73	
626 G	42	24	51	
627 G	28	25	48	
MEAN	28	30	59	
S. D.	6.7	7.6	14.4	
N	28	28	28	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI Study No. 3472.4

APPENDIX H

Individual F0 Lactation Body Weight Data



APPENDIX H  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
306		312	318	330	345	353
311		279	289	303	321	309
317		291	314	308	339	326
321		322	342	361	363	374
323		302	322	326	337	336
341		319	332	341	UNSCHEDULED EUTHANASIA - EXCESSIVE AGGRESSIVENESS	
345		391	391	384	393	400
348		265	298	299	330	349
353		282	300	297	338	319
355		284	299	309	336	323
371		299	310	323	332	324
380		308	345	345	364	331
384		308	317	323	352	349
388		288	287	307	317	324
390		275	295	310	339	335
400		284	281	300	316	309
403		295	316	322	339	344
408		253	269	279	297	287
420		310	317	330	338	327
425		273	281	299	334	325
427		278	302	312	324	349
426		329	349	362	393	386
449		322	333	349	378	366
450		321	325	335	359	342
628		299	309	323	355	360
MEAN		300	314	323	343	339
S. D.		27.4	26.3	24.2	23.3	25.6
N		25	25	25	24	24

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX H  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
310		252	259	279	301	306
312		265	272	284	305	290
313		268	273	282	305	306
314		308	319	333	359	345
324		311	318	335	362	345
325		296	300	319	331	320
329		338	340	347	368	358
339		SCHEDULED EUTHANASIA - TOTAL LITTER LOSS				
354		354	367	381	403	378
363		311	322	341	348	352
377		347	361	377	386	374
397		295	306	325	342	335
406		349	363	377	389	386
409		307	313	319	340	339
411		283	301	318	332	333
413		372	366	366	398	370
419		293	311	310	333	326
422		293	310	319	330	338
423		269	270	280	295	286
428		309	305	320	350	346
429		305	322	337	353	372
430		270	306	309	330	337
431		265	307	315	345	344
440		278	271	289	318	324
447		298	328	320	361	355
629		308	309	329	350	340
MEAN		302	313	324	345	340
S. D.		31.1	30.3	29.6	29.3	25.9
N		25	25	25	25	25

APPENDIX H  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
304		292	309	320	327	334
307		292	310	326	349	327
332		365	376	375	385	374
338		283	290	302	313	302
340		297	305	318	334	349
342		273	284	299	322	331
343		302	304	317	332	337
351		362	367	387	398	373
356		305	325	339	340	315
357		296	307	320	312	308
359		339	343	359	371	376
367		285	293	325	338	317
368		284	299	291	326	313
372		331	336	334	326	354
373		326	319	345	363	351
382		290	295	317	329	323
385		307	312	320	330	329
404		290	309	326	340	336
418		277	291	304	329	331
421		310	314	327	348	337
432		284	298	307	301	339
439		352	352	371	372	352
444		282	290	310	321	315
445		297	308	311	338	321
625		257	271	284	288	293
MEAN		303	312	325	337	333
S. D.		27.9	25.4	25.6	25.2	21.8
N		25	25	25	25	25

APPENDIX H  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
303		303	316	329	342	334
316		300	319	319	352	354
326		300	307	314	335	330
328		310	334	333	341	277
330		292	301	301	304	301
344		297	295	324	332	333
346		310	312	332	364	351
347		345	347	333	369	359
350		270	273	289	307	320
360		276	301	319	332	333
361		330	343	363	394	403
365		314	320	332	349	348
374		296	311	310	347	337
375		335	339	369	366	381
381		297	309	327	336	320
389		246	262	277	308	290
393		292	307	331	332	321
398		262	274	288	312	290
402		305	313	327	332	350
410		293	315	315	326	318
414		337	350	348	358	358
416		317	329	334	349	353
417		313	311	332	366	367
436		307	328	340	368	365
443		261	267	280	301	298
451		341	362	385	396	391
MEAN		302	313	325	343	338
S. D.		25.0	25.5	25.5	25.5	31.6
N		26	26	26	26	26

APPENDIX H  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
308		335	337	340	362	371
318		298	304	324	325	327
319		281	281	307	339	333
327		313	321	326	358	347
331		290	312	318	338	342
333		264	272	288	321	314
336		291	304	318	348	347
337		303	306	311	330	327
352		298	322	331	339	340
358		349	358	380	417	412
362		317	317	322	336	337
364		280	286	302	336	326
378		301	312	295	387	374
394		280	297	305	328	324
395		252	268	293	308	320
396		353	342	342	381	364
399		297	319	332	351	364
405		284	312	327	327	315
415		300	311	328	336	340
434		324	350	394	377	368
435		314	308	330	353	359
437		371	387	397	392	377
438		303	319	322	354	316
441		294	301	324	348	313
448		380	371	371	381	389
452		295	257	253	FOUND DEAD	
626		311	324	330	331	343
627		293	307	322	348	355
MEAN		306	314	326	350	346
S. D.		29.5	29.3	30.9	25.2	25.2
N		28	28	28	27	27

(374)

SLI Study No. 3472.4

## APPENDIX I

Individual F0 Lactation Body Weight Gain Data

APPENDIX I  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
306		6	12	15	8
311		10	14	18	-12
317		23	-6	31	-13
321		20	19	2	11
323		20	4	11	-1
341		13	9	UNSCHEDULED EUTHANASIA - EXCESSIVE AGGRESSIVENESS	
345		0	-7	9	7
348		33	1	31	19
353		18	-3	41	-19
355		15	10	27	-13
371		11	13	9	-8
380		37	0	19	-33
384		9	6	29	-3
388		-1	20	10	7
390		20	15	29	-4
400		-3	19	16	-7
403		21	6	17	5
408		16	10	18	-10
420		7	13	8	-11
425		8	18	35	-9
426		24	10	12	25
427		20	13	31	-7
449		11	16	29	-12
450		4	10	24	-17
628		10	14	32	5
MEAN		14	9	21	-4
S. D.		9.8	7.7	10.4	12.9
N		25	25	24	24

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX I  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT GAIN DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21	
310		7	20	22	5	
312		7	12	21	-15	
313		5	9	23	1	
314		11	14	26	-14	
324		7	17	27	-17	
325		4	19	12	-11	
329		2	7	21	-10	
339		SCHEDULED EUTHANASIA - TOTAL LITTER LOSS				
354		13	14	22	-25	
363		11	19	7	4	
377		14	16	9	-12	
397		11	19	17	-7	
406		14	14	12	-3	
409		6	6	21	-1	
411		18	17	14	1	
413		-6	0	32	-28	
419		18	-1	23	-7	
422		17	9	11	8	
423		1	10	15	-9	
428		-4	15	30	-4	
429		17	15	16	19	
430		36	3	21	7	
431		42	8	30	-1	
440		-7	18	29	6	
447		30	-8	41	-6	
629		1	20	21	-10	
MEAN		11	12	21	-5	
S. D.		11.9	7.4	8.0	10.6	
N		25	25	25	25	



APPENDIX I  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
304	17	11	7	7	
307	18	16	23	-22	
332	11	-1	10	-11	
338	7	12	11	-11	
340	8	13	16	15	
342	11	15	23	9	
343	2	13	15	5	
351	5	20	11	-25	
356	20	14	1	-25	
357	11	13	-8	-4	
359	4	16	12	5	
367	8	32	13	-21	
368	15	-8	35	-13	
372	5	-2	-8	28	
373	-7	26	18	-12	
382	5	22	12	-6	
385	5	8	10	-1	
404	19	17	14	-4	
418	14	13	25	2	
421	4	13	21	-11	
432	14	9	-6	38	
439	0	19	1	-20	
444	8	20	11	-6	
445	11	3	27	-17	
625	14	13	4	5	
MEAN		9	13	12	-4
S.D.		6.5	8.6	10.8	15.7
N		25	25	25	25

APPENDIX I  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
303		13	13	13	-8
316		19	0	33	2
326		7	7	21	-5
328		24	-1	8	-64
330		3	6	3	-3
344		-2	29	8	1
346		2	20	32	-13
347		2	-14	36	-10
350		3	16	18	13
360		25	18	13	1
361		13	20	31	9
365		6	12	17	-1
374		15	-1	37	-10
375		4	30	-3	15
381		12	18	9	-16
389		16	15	31	-18
393		15	24	1	-11
398		12	14	24	-22
402		8	14	5	18
410		22	0	11	-8
414		13	-2	10	0
416		12	5	15	4
417		-2	21	34	1
436		21	12	28	-3
443		6	13	21	-3
451		21	23	11	-5
MEAN		11	12	18	-5
S. D.		7.9	10.6	11.8	15.4
N		26	26	26	26

APPENDIX I  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
308		2	3	22	9
318		6	20	1	2
319		0	26	32	-6
327		8	5	32	-11
331		22	6	20	4
333		8	16	33	-7
336		13	14	30	-1
337		3	5	19	-3
352		24	9	8	1
358		9	22	37	-5
362		0	5	14	1
364		6	16	34	-10
378		11	-17	92	-13
394		17	8	23	-4
395		16	25	15	12
396		-11	0	39	-17
399		22	13	19	13
405		28	15	0	-12
415		11	17	8	4
434		26	44	-17	-9
435		-6	22	23	6
437		16	10	-5	-15
438		16	3	32	-38
441		7	23	24	-35
448		-9	0	10	8
452		-38	-4	FOUND DEAD	
626		13	6	1	12
627		14	15	26	7
MEAN		8	12	21	-4
S. D.		13.5	11.6	19.9	12.8
N		28	28	27	27

SLI Study No. 3472.4

APPENDIX J

Individual F0 Food Consumption Data  
(grams/animal/day)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX J  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

PAGE 1

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21621 M	22	23	23	23	22	22	24	22	22	22	22	22	22	22	22	22	22	22	22	23
21623 M	23	24	24	27	25	26	26	25	25	25	26	26	27	26	26	26	26	26	26	28
21625 M	25	25	25	27	25	26	25	25	25	25	25	25	25	25	24	24	24	24	25	25
21630 M	26	28	28	33	30	30	33	33	33	33	32	35	36	36	36	36	36	36	32	32
21636 M	21	22	22	23	23	23	24	23	23	23	24	24	24	24	23	23	23	23	23	23
21638 M	27	28	28	31	29	29	31	28	28	28	28	26	26	26	22	22	22	22	26	26
21639 M	23	23	23	26	26	26	26	25	25	25	25	25	b	b	b	b	b	b	b	b
21640 M	25	25	25	26	26	26	26	26	26	26	24	25	25	24	24	24	24	24	26	26
21646 M	24	24	24	27	25	25	27	25	25	25	27	26	26	25	25	25	25	25	26	26
21647 M	24	25	25	28	28	28	30	29	29	29	30	29	29	28	28	26	26	26	29	29
21649 M	25	25	25	28	27	27	26	28	27	27	26	28	27	27	27	27	27	27	26	26
21652 M	23	24	24	26	25	25	26	24	24	24	25	26	26	21	21	21	21	26	25	25
21656 M	26	26	26	27	26	26	27	27	27	27	27	27	27	27	27	27	27	26	26	26
21660 M	24	26	26	32	29	27	29	29	29	29	29	29	30	b	b	b	b	b	31	31
21665 M	25	25	25	26	26	26	27	26	26	26	27	27	26	25	25	26	26	26	28	28
21673 M	24	24	24	28	27	27	27	28	27	27	27	28	28	26	26	26	26	27	27	27
21686 M	23	23	23	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	27	27
21688 M	30	31	31	33	33	33	32	33	33	33	32	33	33	b	b	b	b	b	34	34
21695 M	23	23	23	24	24	24	26	26	26	26	26	26	25	24	24	24	24	24	25	25
21703 M	26	26	26	29	28	28	27	29	30	30	27	29	29	29	29	29	29	29	29	29
21709 M	27	26	26	30	29	29	30	30	30	30	29	29	28	28	28	28	28	28	28	28
21719 M	27	28	28	31	30	30	31	30	30	30	31	30	30	29	29	29	29	29	29	29
21721 M	24	25	25	b	28	26	28	28	28	28	28	28	29	29	28	28	28	28	28	28
21723 M	25	25	25	27	26	26	27	27	27	27	27	27	26	26	26	26	26	26	27	27
21729 M	25	25	25	28	27	27	27	28	27	27	27	28	28	26	26	26	26	26	26	26
21738 M	27	27	27	31	30	30	31	30	30	30	31	31	32	31	31	31	31	31	31	31
21739 M	25	26	26	28	28	28	27	28	29	29	27	27	27	27	27	27	27	27	27	27
21761 M	23	25	25	26	26	26	27	26	26	26	27	27	27	27	27	27	27	26	26	26
MEAN	25	25	25	28	27	27	27	27	27	27	27	27	28	28	27	27	27	27	27	27
S. D.	1.9	2.0	2.0	2.6	2.6	2.3	2.3	2.6	2.6	2.6	2.3	2.3	2.8	2.8	2.9	2.9	2.5	2.5	2.6	2.6
N	28	28	28	27	28	28	28	28	28	28	28	28	27	27	26	24	24	24	24	27

a ELIMINATED DUE TO TECHNICAL ERROR.  
 b ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 1: 0 MG/KG/DAY

WEEK	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21621 M	24	25	24	24	21			
21623 M	28	27	27	26	24			
21625 M	a	27	26	32	30			
21630 M	35	24	24	23	22			
21636 M	24	24	24	27	25			
21638 M	24	b	26	25	23			
21639 M	28	27	26	25	25			
21640 M	26	27	30	30	30			
21646 M	27	29	27	27	27			
21647 M	a	29	24	24	24			
21649 M	a	25	30	29	28			
21652 M	24	30	29	29	29			
21656 M	28	27	26	26	25			
21660 M	a	29	26	24	24			
21665 M	28	33	29	28	28			
21673 M	28	29	34	32	32			
21686 M	28	35	25	24	24			
21688 M	33	25	27	26	26			
21695 M	25	30	29	29	26			
21703 M	30	29	c	30	30			
21709 M	29	26	24	23	23			
21719 M	30	26	26	25	25			
21721 M	27	26	26	26	25			
21723 M	26	26	26	26	25			
21729 M	27	26	30	29	29			
21738 M	31	26	25	24	24			
21739 M	27	26	25	23	23			
21761 M	26	26	25	25	23			
MEAN	28	28	27	26	26			
S. D.	2.7	3.1	2.5	2.7	2.7			
N	24	26	27	28	28			

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12).

a ANIMAL WAS MATING.  
b ELIMINATED DUE TO TECHNICAL ERROR.  
c ELIMINATED DUE TO SPILLED FEED.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21611 M	24	26	28	29	29	27	27	28	29	28	27	28	28	26	26	26	26	26	26	26
21612 M	23	24	27	27	27	27	27	27	28	27	27	27	27	27	27	26	26	25	25	26
21617 M	25	25	27	27	28	28	28	27	28	27	29	28	28	28	28	29	29	27	27	27
21618 M	27	27	28	28	28	27	27	28	28	28	28	29	28	28	28	27	27	28	28	28
21620 M	25	26	27	27	27	27	27	28	28	28	27	28	28	28	28	27	27	27	27	27
21631 M	27	26	28	a	a	a	a	28	28	28	28	28	28	28	28	27	27	23	23	23
21633 M	21	21	23	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	23
21641 M	25	25	27	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	28	28
21644 M	22	23	24	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	24
21657 M	23	25	27	28	28	28	28	28	30	31	31	32	32	29	29	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD
21664 M	23	23	25	25	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
21668 M	24	25	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
21679 M	26	28	31	32	32	32	32	32	29	28	28	30	30	29	29	29	29	29	29	29
21681 M	25	25	27	28	28	28	28	28	27	27	27	27	27	27	27	27	27	27	27	27
21685 M	20	21	23	24	24	24	24	24	24	24	24	24	24	24	a	a	a	a	a	a
21689 M	26	27	29	31	31	31	31	31	31	31	30	31	31	31	31	31	32	32	32	32
21690 M	26	26	26	26	27	27	27	27	27	27	28	28	28	28	28	28	29	29	29	29
21705 M	24	25	27	27	27	27	27	27	27	27	28	28	28	28	28	28	26	26	26	26
21713 M	23	23	26	27	27	27	27	27	27	27	27	27	28	28	26	27	27	27	27	27
21714 M	28	27	29	30	30	30	30	28	28	28	28	28	28	30	30	29	29	30	30	30
21717 M	24	25	26	26	26	26	26	26	26	26	24	24	26	25	25	25	25	25	25	25
21735 M	23	24	26	a	a	a	a	32	32	31	31	29	29	29	29	27	27	27	b	b
21736 M	26	26	27	28	28	28	28	28	28	28	28	28	29	29	29	29	29	29	29	29
21737 M	26	26	27	28	28	28	28	27	27	27	27	27	28	28	28	28	29	29	29	29
21741 M	23	24	25	27	27	27	27	26	26	26	25	26	26	25	25	25	25	25	25	25
21748 M	26	27	29	29	29	29	29	30	30	31	31	31	31	29	29	29	27	27	28	28
21749 M	27	28	29	30	30	30	30	27	27	28	28	28	29	28	28	27	27	27	27	27
21757 M	22	23	24	29	29	29	29	24	24	24	26	26	26	16	16	25	25	25	25	27
MEAN	24	25	27	28	27	27	27	27	27	27	27	27	28	27	27	27	27	27	27	27
S. D.	1.9	1.8	1.7	2.0	1.9	2.1	2.1	2.1	1.9	2.1	2.1	2.1	2.1	2.9	2.9	2.0	2.0	1.9	1.9	1.9
N	28	28	28	26	28	28	28	28	28	28	28	28	28	27	27	27	27	26	26	26

a ELIMINATED DUE TO SPILLED FEED.  
b ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	12 TO 13	13 TO 14	14 TO 15	15 TO 16
21611 M	29	30	28	27
21612 M	27	28	26	25
21617 M	27	27	27	24
21618 M	28	29	28	28
21620 M	29	29	27	25
21631 M	28	28	27	26
21633 M	23	24	24	21
21641 M	28	28	27	25
21644 M	25	25	25	23
21657 M	FOUND DEAD			
21664 M	24	22	22	22
21668 M	27	27	26	25
21679 M	29	29	25	25
21681 M	28	28	27	26
21685 M	25	25	24	24
21689 M	33	32	32	30
21690 M	29	29	27	25
21705 M	21	26	24	25
21713 M	29	29	27	26
21714 M	31	32	31	27
21717 M	a	27	26	24
21735 M	a	30	29	27
21736 M	a	28	28	26
21737 M	28	28	28	26
21741 M	27	28	27	25
21748 M	27	28	29	27
21749 M	28	27	26	24
21757 M	26	25	28	23
MEAN	27	28	27	25
S. D.	2.4	2.2	2.1	1.9
N	24	27	27	27

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12).  
a ELIMINATED DUE TO TECHNICAL ERROR.



APPENDIX J

GROUP 3: 2.5 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21613 M	28	30	31	32	33	31	31	32	32	31	32	31	32	31	31	30	30	30	31	31
21624 M	23	25	26	26	26	26	26	26	26	26	26	26	26	25	25	25	25	25	25	25
21632 M	26	26	27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	27	27	27
21650 M	24	25	25	28	27	26	26	27	27	26	27	26	27	26	26	26	26	26	26	26
21658 M	24	24	24	26	26	26	26	26	26	24	24	24	24	24	24	24	24	24	24	24
21659 M	26	27	28	a	28	29	a	28	27	29	27	29	27	a	a	26	26	26	26	26
21662 M	24	24	25	24	24	25	24	23	23	23	23	22	23	23	23	22	22	22	23	23
21663 M	23	23	25	26	26	25	26	26	26	26	26	25	26	25	25	26	26	26	25	25
21669 M	27	29	30	30	30	30	30	30	30	30	32	30	32	30	30	30	30	31	31	31
21671 M	28	29	32	33	31	32	33	31	31	31	30	30	30	31	31	29	29	31	31	31
21682 M	24	25	26	25	25	26	26	25	25	26	27	26	27	28	28	28	28	28	28	28
21691 M	25	26	27	27	27	27	27	27	27	27	27	28	27	27	27	27	27	27	27	27
21696 M	26	27	31	30	31	31	30	31	31	31	29	31	29	30	30	29	29	29	29	29
21698 M	28	30	33	32	29	32	30	29	29	30	29	30	29	30	30	31	31	31	31	31
21699 M	25	24	26	27	26	26	26	26	26	26	28	26	28	27	27	27	27	27	26	26
21701 M	25	25	27	27	26	26	26	26	26	26	28	26	28	26	26	26	26	26	26	26
21706 M	24	25	26	26	26	26	26	26	26	26	27	26	27	25	25	25	25	25	25	25
21708 M	23	25	27	27	27	27	27	27	27	27	26	27	26	26	26	26	26	26	26	26
21718 M	26	26	29	29	30	29	29	30	30	30	30	30	30	30	30	29	29	29	29	29
21722 M	22	21	22	23	23	23	23	23	23	23	23	23	23	22	22	22	23	23	23	23
21732 M	23	24	27	27	27	27	27	27	27	28	28	27	28	27	27	27	27	27	27	27
21734 M	25	24	26	29	27	26	29	27	27	27	26	27	26	26	26	25	25	25	26	26
21744 M	26	26	29	28	29	29	28	29	29	28	29	28	29	28	28	28	28	28	29	29
21751 M	26	25	27	26	25	27	26	27	27	27	27	27	27	27	27	27	27	27	27	27
21755 M	26	25	27	26	25	26	26	25	25	25	25	25	27	27	27	27	27	27	27	27
21762 M	28	31	30	31	33	30	31	33	33	33	35	33	35	34	34	a	a	a	a	a
21763 M	22	23	24	25	24	24	25	24	24	24	25	25	25	24	24	24	25	25	26	26
21764 M	25	27	30	a	a	30	a	a	a	a	30	31	30	29	29	28	28	28	29	29
MEAN	25	26	27	28	28	27	27	28	28	28	28	27	28	27	27	27	27	27	27	27
S. D.	1.7	2.4	2.4	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.6	2.7	2.6	2.8	2.8	2.1	2.1	2.3	2.3	2.3
N	28	28	28	26	27	28	28	27	27	27	28	28	28	27	27	27	27	27	27	27

a ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

WEEK	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21613 M	31		31		30		28	
21624 M	24		25		24		22	
21632 M	27		29		28		23	
21650 M	30		28		25		24	
21658 M	25		26		24		23	
21659 M	27		26		26		25	
21662 M	24		25		23		21	
21663 M	26		28		26		24	
21669 M	31		32		31		29	
21671 M	29		32		30		29	
21682 M	29		31		30		27	
21691 M	27		28		26		24	
21696 M	29		30		29		28	
21698 M	30		31		27		25	
21699 M	27		29		28		26	
21701 M	27		27		25		25	
21706 M	26		27		26		26	
21708 M	26		28		27		25	
21718 M	30		29		30		28	
21722 M	25		a		23		22	
21732 M	b		29		28		28	
21734 M	26		26		25		23	
21744 M	29		30		28		26	
21751 M	25		27		25		24	
21755 M	27		27		25		24	
21762 M	40		40		38		40	
21763 M	26		27		27		24	
21764 M	28		30		29		21	
MEAN	28		29		27		26	
S. D.	3.1		3.0		3.2		3.6	
N	27		27		28		28	

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12).  
a ELIMINATED DUE TO SPILLED FEED.  
b ANIMAL WAS MATING.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21616 M	27	27	28	28	28	29	29	30	30	29	29	29	30	29	29	29	29	29	29	29
21619 M	29	28	29	29	30	30	30	28	28	29	29	29	29	28	27	28	28	28	28	28
21634 M	25	24	24	28	28	27	28	27	27	28	28	28	28	26	26	28	28	28	28	28
21635 M	25	25	25	28	28	28	28	26	26	26	27	27	28	25	25	27	27	28	28	28
21637 M	23	24	27	27	28	28	28	30	30	29	30	30	30	29	29	30	30	30	a	a
21642 M	22	22	22	24	25	24	25	23	23	23	25	25	24	23	23	23	23	23	23	23
21643 M	25	24	24	24	24	25	26	26	26	26	26	26	26	27	27	27	27	27	27	27
21645 M	23	22	24	24	23	24	23	24	24	24	24	24	24	24	24	25	25	24	24	24
21651 M	21	20	22	22	22	24	23	24	24	24	24	24	24	24	24	24	24	24	24	24
21654 M	23	a	24	24	25	25	25	25	25	26	26	26	27	26	26	26	26	26	27	27
21661 M	27	27	27	29	29	29	29	29	29	31	31	31	31	30	30	30	30	30	30	30
21666 M	24	24	26	26	26	27	27	27	27	27	27	27	29	27	27	27	27	27	27	27
21672 M	28	26	26	27	27	27	22	25	25	25	26	26	26	25	25	26	26	26	27	27
21674 M	28	30	30	33	33	33	34	34	34	34	34	34	35	34	a	a	a	a	a	a
21677 M	27	25	25	26	26	26	25	26	26	26	26	26	27	26	26	26	26	26	25	25
21680 M	27	27	27	28	28	28	30	29	29	29	30	30	30	30	30	31	31	31	30	30
21684 M	25	24	24	25	25	26	26	26	26	26	27	27	27	26	26	27	27	26	26	26
21687 M	26	27	27	27	27	27	28	28	28	28	28	28	29	28	28	28	27	27	28	28
21694 M	28	28	28	28	28	28	28	28	28	27	28	28	28	28	28	28	29	29	27	27
21702 M	23	22	22	23	23	23	24	24	24	24	25	25	25	25	25	25	25	25	24	24
21704 M	20	19	20	20	20	20	20	21	21	21	21	21	22	22	22	22	23	23	24	24
21711 M	26	26	26	28	28	27	27	27	27	27	27	27	27	26	26	26	26	27	27	27
21725 M	26	26	26	26	27	27	27	27	27	27	27	27	27	26	26	26	26	27	28	28
21728 M	22	23	23	25	25	24	24	25	25	25	25	27	27	27	27	27	27	27	29	29
21743 M	25	26	26	26	26	26	27	26	26	26	26	26	26	25	25	25	26	26	24	24
21750 M	26	27	27	29	29	30	30	30	30	31	31	31	30	29	29	29	29	29	29	29
21759 M	23	23	24	24	24	24	26	26	26	26	27	27	28	30	30	a	a	a	a	a
21765 M	23	23	25	25	25	25	25	26	26	26	25	25	24	23	23	24	24	24	24	24
MEAN	25	25	26	26	27	27	27	27	27	27	27	27	28	28	26	26	27	27	27	27
S. D.	2.3	2.6	2.5	2.9	2.5	2.7	2.7	2.5	2.5	2.8	2.7	2.7	2.8	2.8	2.1	2.6	2.6	2.9	2.9	2.9
N	28	27	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27

a ELIMINATED DUE TO SPILLED FEED.

APPENDIX J  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21616 M	30		31		29		28	
21619 M	30		28		28		26	
21634 M	30		31		28		26	
21635 M	28		28		23		25	
21637 M	a		31		28		28	
21642 M	23		24		22		21	
21643 M	28		29		28		26	
21645 M	24		24		23		20	
21651 M	27		27		25		23	
21654 M	FOUND DEAD							
21661 M	31		33		32		29	
21666 M	29		31		29		27	
21672 M	29		a		29		28	
21674 M	35		37		33		30	
21677 M	27		28		27		24	
21680 M	30		31		29		28	
21684 M	27		27		26		24	
21687 M	29		31		29		27	
21694 M	28		30		28		28	
21702 M	27		27		25		23	
21704 M	24		24		23		22	
21711 M	28		29		26		27	
21725 M	28		28		27		25	
21728 M	29		29		27		27	
21743 M	26		27		26		24	
21750 M	27		27		26		24	
21759 M	31		32		28		26	
21765 M	26		27		24		22	
MEAN	28		29		27		26	
S. D.	2.5		3.0		2.6		2.5	
N	26		26		27		27	

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12).  
 a ELIMINATED DUE TO SPILLED FEED.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
21614 M	27	25	25	26	27	28	28	28	28	28	28	28	28	28	29	29	29	29	29	32
21627 M	23	22	22	25	27	27	27	27	27	27	27	27	26	26	25	23	23	25	25	25
21628 M	23	22	22	22	24	24	24	24	22	22	22	26	24	24	26	25	25	26	26	26
21629 M	25	26	26	27	28	28	28	28	28	28	29	29	29	29	30	30	30	29	29	29
21648 M	26	23	23	25	25	25	25	25	25	25	25	25	25	24	25	24	24	24	24	24
21667 M	24	24	25	26	26	27	27	27	27	27	27	27	27	27	26	28	28	26	26	26
21670 M	25	26	26	27	27	25	25	25	25	24	24	26	25	24	24	27	27	27	27	27
21676 M	33	31	31	31	31	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30
21683 M	25	25	30	27	28	28	28	28	28	28	30	30	30	29	29	29	27	27	27	27
21692 M	25	25	26	26	28	28	28	28	28	28	29	29	27	27	27	28	28	26	26	26
21693 M	27	27	27	32	31	a	a	a	a	a	30	30	29	29	30	30	30	31	31	31
21707 M	24	24	24	25	28	28	28	27	27	27	27	27	28	28	26	26	26	27	27	27
21710 M	26	26	26	27	28	28	28	28	28	28	29	29	32	32	a	a	a	a	a	a
21715 M	23	23	23	24	27	27	27	27	27	27	28	28	29	29	24	24	25	25	25	25
21716 M	24	22	22	23	24	24	24	24	22	22	23	23	23	23	23	22	22	22	22	22
21720 M	26	25	25	25	26	26	26	26	26	26	27	27	27	27	26	26	26	27	27	27
21724 M	24	23	23	25	27	27	27	27	26	26	27	27	28	28	26	26	26	26	26	26
21726 M	24	25	25	26	26	26	26	26	26	26	26	26	26	26	25	25	25	25	25	25
21727 M	27	27	27	28	28	28	28	29	29	29	30	30	30	30	31	31	31	31	31	31
21730 M	27	27	27	28	28	28	28	29	29	29	28	28	28	28	26	26	29	28	28	28
21740 M	26	25	25	27	27	26	26	26	26	26	26	26	26	26	24	24	24	25	25	25
21745 M	24	24	24	26	27	27	27	27	27	27	26	26	27	27	26	26	26	26	26	26
21746 M	23	24	24	25	25	25	25	25	25	25	25	25	26	26	25	25	25	25	25	25
21752 M	25	25	25	27	27	27	27	27	27	27	32	32	31	31	29	29	27	27	27	27
21754 M	28	27	27	27	a	a	a	a	a	a	28	28	28	28	28	29	29	29	29	29
21756 M	24	24	24	26	25	25	25	25	25	25	28	28	28	28	26	26	27	27	27	27
21758 M	25	26	26	28	28	28	28	28	28	28	28	28	26	26	24	24	27	27	26	26
21760 M	25	25	25	26	26	24	24	24	24	24	25	25	26	26	b	b	25	25	23	23
MEAN	25	25	25	26	27	26	26	26	26	26	27	27	27	27	27	27	27	27	27	27
S. D.	2.0	2.1	2.1	2.0	1.8	1.9	1.9	1.9	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.4	2.4	2.4
N	28	28	28	28	27	27	27	27	28	28	28	28	28	28	26	26	27	27	28	28

a ELIMINATED DUE TO SPILLED FEED.  
b ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX J

GROUP 5: 10.0 MG/KG/DAY

WEEK	12 TO	13	13 TO	14	14 TO	15	15 TO	16
21614 M	31	29	28	26	26	26	26	26
21627 M	29	26	26	22	22	23	23	26
21628 M	26	30	30	28	28	27	27	26
21629 M	30	27	24	24	24	21	21	27
21648 M	26	27	28	26	26	26	26	26
21667 M	27	28	31	28	28	26	26	26
21670 M	30	31	31	30	30	29	29	29
21676 M	31	28	28	27	27	26	26	26
21683 M	28	30	30	27	27	25	25	26
21692 M	29	28	28	28	28	26	26	26
21693 M	28	30	30	26	26	25	25	26
21707 M	28	a	a	26	26	25	25	26
21710 M	32	a	a	29	29	30	30	26
21715 M	16	25	25	24	24	23	23	26
21716 M	26	a	a	24	24	22	22	26
21720 M	25	26	26	26	26	26	26	26
21724 M	27	27	27	27	27	25	25	26
21726 M	28	29	29	27	27	24	24	26
21727 M	30	31	31	29	29	28	28	26
21730 M	28	28	28	27	27	25	25	26
21740 M	26	26	26	24	24	24	24	26
21745 M	27	27	27	26	26	24	24	26
21746 M	26	26	26	24	24	23	23	26
21752 M	32	32	32	26	26	26	26	26
21754 M	28	30	30	30	30	28	28	26
21756 M	26	28	28	27	27	25	25	26
21758 M	26	29	29	29	29	25	25	26
21760 M	25	26	26	24	24	22	22	26
MEAN	28	28	28	26	26	25	25	26
S. D.	2.9	1.9	1.9	1.9	1.9	2.1	2.1	2.1
N	28	25	25	28	28	28	28	28

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATTING (WEEK 11 TO 12).  
a ELIMINATED DUE TO SPILLED FEED.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11	
306 F	17	16	16	18	18	20	17	17	16	16	16	17	16	16	16	17	17	17	17	17	
311 F	16	16	16	18	18	19	18	18	19	18	17	18	19	17	17	18	17	18	17	17	
317 F	16	15	18	18	18	20	19	19	18	18	17	19	18	19	19	17	18	16	16	16	
321 F	18	19	19	20	21	21	21	20	20	20	19	20	20	19	22	22	22	19	19	19	
323 F	19	19	19	22	22	a	24	22	22	22	22	24	22	22	21	21	20	21	21	21	
341 F	19	19	19	21	21	22	21	22	21	21	21	21	21	24	21	21	21	18	18	18	
345 F	21	22	22	39	39	26	24	25	25	17	17	24	25	17	24	24	23	23	23	23	
348 F	15	15	15	17	17	18	17	17	18	14	14	17	18	14	16	16	17	17	17	17	
353 F	16	18	18	19	19	20	19	19	20	22	22	19	20	22	20	18	17	17	17	17	
355 F	18	19	19	22	22	22	21	20	20	20	21	21	20	19	21	21	21	17	17	17	
369 F	18	19	19	20	20	20	20	20	21	21	21	20	21	15	19	19	19	20	20	20	
371 F	19	18	18	19	19	20	18	18	19	18	18	18	19	25	19	19	20	20	20	20	
380 F	18	19	19	20	20	20	20	20	20	20	20	19	21	16	20	20	19	19	19	19	
383 F	18	19	19	19	19	20	19	19	19	19	19	19	20	22	20	17	17	17	17	17	
384 F	19	18	18	20	20	21	20	20	21	20	20	20	21	15	21	21	21	20	20	20	
387 F	20	21	21	22	22	23	21	22	22	22	21	21	21	18	18	18	18	18	18	18	
388 F	17	17	17	17	17	18	18	18	19	19	18	18	18	21	21	21	21	21	21	21	
390 F	18	18	18	19	19	20	19	19	19	19	19	19	19	15	15	15	15	15	15	15	
400 F	18	17	17	19	19	19	18	18	18	17	17	18	19	17	17	17	17	17	17	17	
403 F	19	18	18	19	19	19	19	19	20	20	20	19	19	19	19	19	19	19	19	19	
408 F	18	17	17	19	19	19	17	18	18	18	17	17	18	15	15	15	16	16	16	16	
420 F	17	15	15	18	18	19	18	18	18	18	18	18	18	22	22	22	16	16	16	16	
425 F	18	20	20	19	19	20	17	17	17	17	17	17	18	14	14	14	18	17	17	17	
426 F	18	19	19	18	18	18	18	18	18	18	18	18	17	20	20	20	17	17	17	17	
427 F	19	17	17	19	19	19	18	18	18	18	18	18	19	17	17	17	17	17	17	17	
449 F	19	19	19	21	21	20	21	21	21	21	21	21	21	20	20	21	21	20	20	20	
450 F	19	19	19	23	23	19	22	22	21	21	21	22	21	20	20	19	19	20	20	20	
628 F	20	19	19	21	21	22	20	19	19	19	20	20	20	18	18	19	19	20	20	20	
MEAN	18	18	18	20	20	20	19	20	20	20	19	19	20	18	18	19	19	19	19	19	
S. D.	1.4	1.6	1.6	4.0	1.9	1.7	2.0	1.8	1.8	3.0	2.1	1.8	2.1	2.1	2.1	2.1	2.1	1.6	1.6	1.6	
N	28	28	28	28	28	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28

a ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

PAGE 12

GROUP 1: 0 MG/KG/DAY

WEEK	12 TO 13	13 TO 14	14 TO 15	15 TO 16
355 F	a	23	b	b
369 F	a	29	18	18
383 F	a	19	18	18
MEAN		24	18	18
S. D.		5.1	--	--
N		3	2	2

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING IS PRESENTED IN APPENDIX K. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

- a ANIMAL WAS MATING.
- b ANIMAL WITH NO EVIDENCE OF MATING DELIVERED AND IS LACTATING.



APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
310 F	15	15	15	17	16	16	16	16	16	16	16	16	17	16	16	16	16	16	16	16
312 F	16	16	16	17	16	16	16	16	16	16	16	16	16	15	15	15	14	14	15	15
313 F	15	16	16	17	16	16	16	16	16	16	16	17	17	17	17	17	17	17	18	18
314 F	17	17	17	18	18	18	18	18	18	18	19	19	22	15	15	16	16	20	20	20
324 F	20	19	19	21	20	21	21	25	18	18	27	20	20	18	18	19	19	17	17	17
325 F	17	17	17	21	20	22	22	20	18	18	18	19	19	18	18	18	19	17	17	17
329 F	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
339 F	18	17	17	19	19	19	19	19	19	19	16	16	17	16	16	16	16	17	17	17
354 F	19	19	19	22	23	21	21	23	21	21	21	21	21	21	21	21	20	20	20	20
363 F	17	18	18	21	19	19	19	19	19	19	20	20	20	19	19	18	18	20	20	20
370 F	17	17	17	17	19	19	19	18	18	18	18	18	18	17	17	17	17	17	17	17
377 F	19	19	19	20	23	20	23	23	23	22	20	20	21	19	19	19	19	19	19	19
397 F	17	17	17	19	18	18	18	18	18	18	18	18	18	18	18	17	17	17	17	17
406 F	21	22	22	23	23	23	23	23	22	22	22	22	22	20	20	20	20	20	20	20
409 F	16	17	17	18	18	18	20	20	18	18	18	18	18	16	16	17	17	17	17	17
411 F	17	18	18	18	18	18	20	20	19	19	19	19	19	17	17	17	18	19	19	19
413 F	19	20	20	23	23	23	24	24	23	23	23	23	23	23	23	22	22	22	22	22
419 F	17	17	17	19	18	18	19	19	18	18	19	19	20	19	19	17	17	18	18	18
422 F	17	16	16	18	18	18	19	19	18	18	18	18	18	17	17	17	18	19	19	19
423 F	16	17	17	18	18	18	19	19	18	18	18	18	18	18	18	16	16	17	17	17
428 F	19	20	20	21	21	21	21	21	22	22	21	21	20	a	a	21	21	20	20	20
429 F	18	18	18	18	18	18	18	18	18	18	19	19	17	18	18	18	18	19	19	19
430 F	19	17	17	19	19	19	19	19	19	19	18	18	19	19	19	17	17	17	17	17
431 F	19	18	18	18	17	17	18	18	17	17	19	19	19	20	20	19	19	20	20	20
433 F	21	21	21	23	24	24	24	24	25	24	24	24	23	21	21	21	21	21	23	23
440 F	18	17	17	20	18	18	20	18	18	18	19	19	18	17	17	17	18	18	19	19
447 F	17	16	16	18	18	18	18	18	18	18	18	18	18	17	17	17	17	17	17	17
629 F	20	18	18	21	19	19	25	19	19	19	18	18	20	19	19	19	19	19	19	19
MEAN	18	18	18	20	19	19	20	19	19	19	19	19	19	18	18	18	18	18	18	18
S. D.	1.7	1.6	1.6	2.3	2.1	2.1	2.3	2.1	2.1	2.1	2.5	1.8	1.8	1.9	1.7	1.7	1.7	1.6	1.6	1.6
N	28	28	28	28	28	28	28	28	28	28	28	28	28	27	28	28	28	28	28	28

a ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
304 F	17	17	17	18	19	19	20	19	19	18	18	17	18	19	19	19	18	19	19	19
307 F	17	17	17	18	18	17	17	17	17	17	17	17	17	17	17	17	16	16	18	18
332 F	22	21	21	23	22	22	20	21	21	20	20	20	20	20	20	20	18	20	20	20
338 F	18	18	18	18	18	18	18	18	18	18	18	18	19	18	17	17	16	16	16	16
340 F	17	17	17	19	19	19	18	18	18	17	17	17	18	17	17	17	16	17	17	17
342 F	16	16	16	18	17	17	16	16	16	16	16	16	17	17	17	17	16	17	17	17
343 F	17	17	17	21	a	19	19	19	19	18	18	18	18	18	18	18	18	18	18	18
351 F	24	25	25	26	25	24	25	24	24	24	24	25	24	23	23	23	23	25	25	25
356 F	19	19	19	21	21	21	21	21	22	22	22	22	22	19	19	19	19	19	19	19
357 F	18	18	19	20	21	21	21	21	21	21	20	21	20	18	18	18	18	18	18	18
359 F	21	21	21	21	22	22	22	22	23	23	22	22	22	21	21	21	21	20	20	20
367 F	18	17	17	19	18	18	18	19	19	19	17	18	17	18	18	17	17	17	17	17
368 F	17	18	18	21	20	21	20	20	21	21	20	20	19	19	19	19	19	19	19	19
372 F	18	18	18	20	21	21	21	21	21	21	20	21	21	22	22	21	21	21	21	21
373 F	21	21	21	23	24	25	23	25	25	24	24	24	24	22	22	23	23	24	24	24
379 F	20	20	20	21	21	20	22	20	20	20	22	22	19	18	18	18	18	19	19	19
382 F	17	17	17	18	19	19	18	18	19	18	18	18	18	18	18	18	18	18	18	18
385 F	17	18	18	18	18	a	18	18	a	17	17	17	17	20	20	19	19	17	17	17
401 F	17	16	16	18	a	18	17	17	17	17	17	17	17	16	16	17	17	18	18	18
404 F	17	16	16	18	19	19	19	19	19	19	19	17	19	19	19	18	18	18	18	18
412 F	15	16	16	18	18	18	18	18	18	18	18	18	19	18	18	19	19	19	19	19
418 F	17	17	17	18	19	19	18	19	19	19	18	18	18	17	17	16	16	17	17	17
421 F	18	18	18	20	18	19	18	19	19	19	19	19	19	18	18	18	18	20	20	20
432 F	19	18	18	18	a	21	19	21	21	21	19	19	19	19	19	19	19	19	19	19
439 F	18	18	18	19	19	19	19	19	19	19	20	20	20	19	19	19	19	20	20	20
444 F	16	16	16	17	17	18	18	18	18	18	18	18	18	17	17	17	18	18	18	18
445 F	18	18	18	19	20	19	20	19	19	19	19	19	20	19	19	19	18	18	18	18
625 F	15	15	15	15	16	16	17	16	16	16	17	17	16	15	15	15	16	16	16	16
MEAN	18	18	18	19	20	20	19	20	20	20	19	19	19	18	18	18	18	18	19	19
S. D.	2.0	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.2	2.0	2.0	2.0	2.0	1.7	1.7	1.9	1.9	2.4	2.4	2.4
N	28	28	28	28	25	28	28	28	27	28	28	28	28	28	28	28	28	28	28	28

a ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

WEEK 12 TO 13 13 TO 14 14 TO 15 15 TO 16

412 F a 18 15 17

MEAN 18 15 17

S. D. -- -- --

N 1 1 1

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 11 TO 12). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING IS PRESENTED IN APPENDIX K. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

a ANIMAL WAS MATING.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
303 F	19	19	19	19	19	19	19	20	20	19	19	19	19	19	20	20	22	22	18	18
309 F	17	18	18	18	18	18	18	18	18	18	18	18	16	16	15	15	15	15	7	7
316 F	20	20	21	21	21	20	21	21	21	21	21	21	20	20	19	19	20	20	20	20
320 F	18	19	19	20	20	20	20	22	22	22	24	24	a	a	a	a	a	a	28	28
326 F	20	19	19	20	21	21	21	20	20	20	20	20	20	20	19	19	20	20	19	19
328 F	18	17	20	20	20	20	20	19	19	19	21	21	19	19	19	19	19	19	13	13
330 F	18	18	19	19	22	22	22	20	20	20	18	18	19	19	18	18	18	18	18	18
344 F	20	18	19	19	19	19	19	20	20	20	20	20	19	19	17	17	18	18	18	18
346 F	16	17	17	18	18	18	18	19	19	19	18	18	18	18	17	17	18	18	19	19
347 F	21	22	22	22	22	22	22	22	22	22	22	22	21	21	20	20	20	20	21	21
350 F	17	16	16	18	17	17	17	18	18	18	18	18	16	16	17	17	16	16	18	18
360 F	18	18	18	20	20	20	20	19	19	19	21	21	21	21	20	20	20	20	17	17
361 F	20	20	22	22	22	22	22	22	22	22	22	23	23	21	21	21	21	21	21	21
365 F	19	18	20	20	20	20	20	19	19	19	20	20	21	17	17	17	18	20	20	20
374 F	23	19	20	21	21	21	21	20	20	20	14	14	20	20	19	19	20	21	21	21
375 F	20	20	21	21	20	20	20	20	20	20	20	20	20	20	19	19	19	20	20	20
381 F	17	17	17	17	19	19	19	20	20	20	20	20	18	18	16	16	19	19	19	19
389 F	15	15	15	15	18	18	18	17	17	17	17	17	16	16	16	16	16	16	16	16
393 F	17	17	17	17	18	18	18	17	17	17	17	17	17	17	17	17	16	17	17	17
398 F	17	16	16	16	16	16	17	16	16	16	16	16	16	16	16	16	15	15	15	15
402 F	20	19	19	21	19	19	19	20	20	20	19	19	19	19	18	18	18	19	19	19
410 F	18	17	17	19	18	18	18	18	18	18	18	18	18	18	18	18	19	19	20	20
414 F	20	22	22	22	22	22	24	22	22	22	25	25	23	23	22	22	23	23	24	24
416 F	19	19	21	21	21	21	21	21	21	21	21	21	21	21	20	20	19	20	20	20
417 F	19	20	22	22	a	a	a	23	23	23	20	20	21	21	20	20	20	21	21	21
436 F	18	18	20	20	19	19	19	20	20	20	17	17	20	20	17	17	19	19	18	18
443 F	17	17	18	18	18	18	18	18	18	18	17	17	17	17	15	15	16	16	16	16
451 F	20	20	21	21	22	22	22	23	23	23	22	22	22	22	21	21	21	21	23	23
MEAN	19	18	18	20	20	20	20	20	20	20	19	19	19	18	18	19	19	19	19	19
S. D.	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	2.4	2.4	2.2	2.2	1.9	2.1	2.1	2.1	3.7	3.7
N	28	28	28	28	28	26	26	28	28	28	27	27	27	27	27	27	27	27	28	28

a ELIMINATED DUE TO SPILLED FEED.

APPENDIX J  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
308 F	18	19	19	23	27	24	24	25	25	24	24	25	25	24	24	25	25	24	24	24
318 F	16	16	16	19	19	19	19	18	18	17	17	18	18	17	17	17	19	19	19	19
319 F	17	17	17	18	18	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
327 F	18	18	18	21	21	19	19	20	20	19	19	20	20	19	19	19	19	20	20	20
331 F	16	15	15	18	17	b	b	17	17	16	16	17	17	16	16	17	17	16	16	16
333 F	17	18	18	18	18	16	16	18	18	16	16	17	17	16	16	16	16	17	17	17
336 F	19	18	18	20	20	19	19	19	19	18	18	20	20	17	17	19	19	17	17	17
337 F	18	18	18	19	26	20	20	17	17	17	17	17	17	17	17	16	16	18	18	18
352 F	20	19	22	20	22	22	22	22	21	22	22	21	21	19	19	18	18	21	21	21
358 F	20	19	20	20	21	20	20	18	18	19	19	18	18	19	19	19	19	20	20	20
362 F	18	18	18	19	19	19	19	17	16	17	17	17	17	17	17	17	18	18	18	18
364 F	16	17	17	17	16	17	17	17	16	17	17	17	17	17	17	17	17	17	17	17
378 F	17	18	18	18	18	19	19	18	18	18	18	19	20	19	19	17	17	20	20	20
394 F	17	17	17	15	19	19	19	19	19	19	19	17	17	18	18	18	18	18	18	18
395 F	18	18	18	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
396 F	a	16	16	19	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
399 F	18	16	16	17	17	17	17	18	18	18	18	18	18	17	17	17	17	17	17	17
405 F	17	17	17	18	18	18	18	18	18	18	18	18	18	16	16	16	16	16	16	16
415 F	18	18	18	19	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
434 F	20	20	20	21	22	22	22	21	22	22	22	22	22	21	21	21	21	21	21	21
435 F	19	19	19	21	21	20	20	21	21	21	21	20	20	16	16	16	16	16	16	16
437 F	21	21	21	22	21	22	22	21	21	21	21	23	23	19	19	19	19	19	19	19
438 F	17	17	17	18	18	18	18	18	18	18	18	19	19	17	17	17	17	17	17	17
441 F	18	17	17	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
448 F	20	20	20	24	24	24	24	24	24	24	24	25	25	23	23	23	23	23	23	23
452 F	16	16	16	b	18	19	19	18	18	19	19	19	19	19	19	18	18	18	18	18
626 F	21	19	19	20	19	20	20	18	18	18	17	18	18	17	17	18	18	17	17	17
627 F	18	18	18	19	20	19	19	19	20	19	20	17	17	20	20	19	19	20	20	20
MEAN	18	18	18	19	20	20	20	19	20	19	18	19	19	18	18	19	19	19	19	19
S. D.	1.5	1.3	1.3	1.8	2.6	2.0	2.0	2.4	2.6	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
N	27	28	28	28	27	26	26	26	27	26	26	26	26	26	26	27	27	27	27	27

a ELIMINATED DUE TO TECHNICAL ERROR.  
b ELIMINATED DUE TO SPILLED FEED.

SLI Study No. 3472.4

APPENDIX K

Individual F0 Gestation Food Consumption Data  
(grams/animal/day)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 1: 0 MG/KG/DAY

APPENDIX K

PREGNANCY		DAY	0- 7	7-14	14-20
STATUS	DAY				
G	306	20	23	22	
G	311	20	23	24	
G	317	20	21	22	
G	321	21	23	23	
G	323	22	27	28	
G	341	27	29	28	
G	345	24	31	30	
G	348	21	21	20	
G	353	22	25	25	
G	371	23	24	23	
G	380	24	26	25	
G	384	22	25	23	
NG	387	21	25	18	
G	388	21	23	25	
G	390	23	24	23	
G	400	21	24	22	
G	403	24	25	22	
G	408	19	21	20	
G	420	22	23	24	
G	425	21	22	20	
G	426	19	21	23	
G	427	22	27	27	
G	449	25	26	27	
G	450	23	25	27	
G	628	21	23	25	
MEAN		22	24	24	
S. D.		1.9	2.5	2.7	
N		24	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX K  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0- 7	7-14	14-20	
310 G	19	20	20	20
312 G	20	20	21	21
313 G	20	22	23	23
314 G	22	25	25	25
324 G	21	21	23	23
325 G	22	22	22	22
329 G	22	25	24	24
339 G	20	23	24	24
354 G	24	27	28	28
363 G	23	23	24	24
370 NG	21	21	17	17
377 G	23	26	27	27
397 G	21	23	23	23
406 G	23	26	25	25
409 G	19	24	24	24
411 G	21	23	25	25
413 G	25	27	26	26
419 G	21	25	24	24
422 G	22	25	22	22
423 G	20	23	23	23
428 G	25	26	26	26
429 G	22	23	26	26
430 G	21	23	22	22
431 G	22	23	25	25
433 NG	25	26	21	21
440 G	23	24	23	23
447 G	22	23	24	24
629 G	21	24	24	24

MEAN  
 S. D.  
 N

22 24 24  
 1.6 1.9 1.8  
 26 26 26

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX K  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0- 7	7-14	14-20	
304 G	23	24	24	
307 G	19	20	22	
332 G	25	28	27	
338 G	21	24	25	
340 G	20	22	25	
342 G	22	22	22	
343 G	23	23	23	
351 G	29	29	28	
356 G	21	23	24	
357 G	20	23	24	
359 G	24	26	27	
367 G	21	23	23	
368 G	22	24	26	
372 G	25	25	24	
373 G	26	27	26	
379 NG	23	21	16	
382 G	21	23	22	
385 G	20	21	23	
401 NG	18	22	17	
404 G	21	24	29	
418 G	20	21	24	
421 G	24	25	27	
432 G	20	22	22	
439 G	23	28	27	
444 G	22	23	26	
445 G	21	25	25	
625 G	19	22	23	
MEAN	22	24	25	
S. D.	2.4	2.3	2.0	
N	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX K  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY		DAY			14-20	
STATUS	DAY	0-7	7-14	14-20		
G	303	22	25	36		
NG	309	14	14	UNSCHEDULED EUTHANASIA - HUMANE REASONS		
G	316	21	24	23		
NG	320	a	27	21		
G	326	22	24	25		
G	328	21	24	24		
G	330	21	21	23		
G	344	21	22	23		
G	346	21	25	25		
G	347	24	24	26		
G	350	20	23	23		
G	360	22	25	22		
G	361	27	30	28		
G	365	23	25	25		
G	374	23	25	25		
G	375	24	24	26		
G	381	21	23	25		
G	389	19	21	22		
G	393	20	22	24		
G	398	18	20	22		
G	402	23	24	21		
G	410	20	21	23		
G	414	28	30	27		
G	416	23	27	27		
G	417	24	27	25		
G	436	22	23	24		
G	443	18	19	21		
G	451	24	26	23		
MEAN		22	24	25		
S. D.		2.4	2.7	3.0		
N		26	26	26		

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN  
 a ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX K  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0- 7	7-14	14-20	
308 G	26	26	29	
318 G	22	24	24	
319 G	20	22	22	
327 G	23	26	24	
331 G	19	21	22	
333 G	20	21	21	
336 G	23	25	25	
337 G	19	20	23	
352 G	22	23	27	
358 G	25	29	27	
362 G	22	23	22	
364 G	21	22	22	
378 G	26	28	24	
394 G	19	24	22	
395 G	23	22	22	
396 G	24	26	26	
399 G	23	24	25	
405 G	21	23	24	
415 G	24	24	26	
434 G	24	28	27	
435 G	22	25	26	
437 G	27	30	28	
438 G	19	23	24	
441 G	a	29	28	
448 G	31	33	32	
452 G	22	24	25	
626 G	25	24	23	
627 G	23	23	25	
MEAN	23	25	25	
S. D.	2.8	3.0	2.6	
N	27	28	28	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN  
 a ELIMINATED DUE TO SPILLED FEED.

SLI Study No. 3472.4

APPENDIX L

Individual F0 Estrous Cyclicity Data

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 1: 0 MG/KG/DAY				
306 F	X		4, 4, 4	4.00
311 F	X		5, 5, 4, 4	4.60
317 F	X		3, 7, 4, 6, 4, 5	4.83
321 F	X		4, 4, 4, 4, 4	4.00
323 F	X		4, 4, 4, 4, 4, 4	4.00
341 F	X		4, 4, 4, 4, 5	4.20
345 F	X		4, 4, 4, 4, 4, 4	4.00
348 F	X		4, 4, 4, 4, 4	4.00
353 F	X		5, 4, 4, 4, 4, 4	4.17
355 F		X		
369 F	X		4, 4, 8	5.33
371 F	X		4, 4, 4, 4, 4, 4	4.00
380 F	X		4, 4, 4, 4, 4, 4	4.00
383 F		X		
384 F	X		5, 5, 4, 4, 4	4.40
387 F	X		6, 5, 5, 4	5.00
388 F	X		5, 5, 5, 4	4.75
390 F	X		4, 4, 4, 4, 4, 4	4.00
400 F	X		5, 4, 3, 5, 7	4.80
403 F	X		4, 4, 4, 4, 4, 4	4.00
408 F	X		4, 4, 4, 4, 4, 4	4.00
420 F	X		4, 4, 4, 4, 4, 4	4.00
425 F	X		4, 4, 4, 4, 4, 4	4.00
426 F	X		4, 8, 6, 4	5.50
427 F	X		4, 4, 4, 4, 4, 4	4.00
449 F	X		4, 4, 4, 4, 4, 5	4.20

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
 CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
 OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX L  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F0 ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 1: 0 MG/KG/DAY				
450 F	X		6, 4, 5, 5	5.00
628 F	X		5, 4, 4, 4, 4	4.20
MEAN				4.35
S. D.				0.468
N				26

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
 CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
 OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 2: 1.0 MG/KG/DAY				
310 F	X		5, 4, 4, 4	4.40
312 F	X		4, 4, 4, 4, 4	4.00
313 F	X		5, 4, 4, 4, 4, 4	4.17
314 F	X		5, 4, 6, 5	5.00
324 F	X		4, 4, 4, 4, 4, 3	3.80
325 F	X		4, 4, 4, 4, 4	4.00
329 F	X		5, 5, 4, 4, 4	4.40
339 F	X		6, 4, 5, 6	5.25
354 F	X		5, 5, 6, 5, 5	5.20
363 F	X		4, 4, 4, 4, 4, 3	3.83
370 F	X		4, 4, 4, 4, 4, 4	4.00
377 F	X		4, 4, 4, 4, 4, 4	4.00
397 F	X		4, 4, 4, 4, 4	4.00
406 F	X		8, 4, 4, 4, 4	4.80
409 F	X		5, 4, 4, 4, 4, 4	4.17
411 F	X		4, 4, 4, 4, 4	4.00
413 F		X		
419 F	X		4, 4, 4, 4, 4, 4	4.00
422 F	X		4, 4, 4, 4, 4, 4	4.00
423 F	X		5, 5, 5, 5	5.00
428 F	X		4, 4, 4, 4, 4, 4	4.00
429 F	X		4, 4, 4, 4, 4, 5	4.20
430 F	X		4, 4, 4, 4, 4, 4	4.00
431 F	X		5, 5, 4, 5	4.75
433 F	X		5, 5, 5, 4	4.75
440 F	X		6, 5, 5, 7	5.75

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 2: 1.0 MG/KG/DAY				
447 F	X		5, 4, 4, 4, 4	4.20
629 F	X		4, 4, 4, 4, 4	4.00
MEAN				4.36
S. D.				0.515
N				27

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD. CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE), OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).



	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 3: 2.5 MG/KG/DAY				
304 F		X		
307 F	X		4, 4, 4, 5	4.40
332 F	X		4, 4, 4, 4, 4	4.00
338 F	X		5, 4, 4, 5, 5	4.80
340 F	X		4, 4, 4, 4, 4, 4	4.00
342 F	X		4, 4, 4, 4, 4, 4	4.00
343 F	X		4, 4, 4, 4, 4, 4	4.00
351 F	X		4, 4, 4, 4, 4, 4	4.00
356 F	X		4, 4, 4, 4, 4, 4	4.00
357 F	X		6, 4, 5, 4, 4, 4	4.60
359 F	X		4, 4, 4, 4, 4, 4	4.00
367 F	X		6, 4, 5, 5, 5	5.00
368 F	X		4, 3, 7, 4, 4, 4	4.40
372 F	X		4, 4, 4, 4, 4, 4	4.00
373 F	X		4, 4, 4, 4, 4, 4	4.00
379 F	X		4, 4, 4, 5, 4, 5	4.40
382 F	X		4, 4, 4, 4, 4, 4	4.00
385 F		X		
401 F	X		4, 4, 4, 4, 4, 4	4.00
404 F	X		4, 5, 6, 4, 4, 4	4.60
412 F	X		4, 4, 4, 4, 4, 4	4.00
418 F	X		4, 4, 4, 4, 4, 4	4.00
421 F	X		4, 4, 4, 4, 4, 4	4.00
432 F	X		4, 4, 4, 4, 4, 4	4.00
439 F	X		4, 4, 4, 4, 4, 4	4.00
444 F	X		4, 4, 4, 4, 4, 4	4.00

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX L  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F0 ESTROUS CYCLICITY DATA

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	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 3: 2.5 MG/KG/DAY				
445 F	X		4, 4, 4, 4, 4, 4	4.00
625 F	X		5, 4, 4, 4, 4, 4	4.20
MEAN				4.17
S. D.				0.292
N				26

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX L  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 4: 5.0 MG/RG/DAY				
303 F	X		14, 4, 4	7.33
309 F	X		4, 5, 15	8.00
316 F	X		4, 4, 4, 4, 4	4.00
320 F	X		4, 5, 5, 5	4.75
326 F	X		4, 4, 4, 4, 4	4.00
328 F	X		5, 4, 4, 12	6.25
330 F	X		4, 4, 4, 4, 4	4.00
344 F	X		4, 4, 4, 4, 4, 4	4.00
346 F	X		4, 4, 4, 4, 4, 4	4.00
347 F	X		4, 4, 4, 4, 4	4.00
350 F	X		5, 6, 4, 6	5.25
360 F	X		4, 4, 4, 5, 5	4.40
361 F	X		4, 4, 4, 4, 4, 4	4.00
365 F	X		4, 4, 4, 5, 5	4.40
374 F	X		4, 4, 4, 5, 4	4.20
375 F	X		4, 4, 4, 4, 4	4.00
381 F	X		4, 4, 4, 4, 4, 4	4.00
389 F	X		4, 4, 4, 4, 4, 4	4.00
393 F	X		4, 4, 4, 4, 4, 4	4.00
398 F	X		4, 4, 4, 4, 4, 4	4.00
402 F	X		6, 5, 5, 5	5.25
410 F	X		4, 4, 4, 4, 4	4.00
414 F	X		4, 7, 2, 4	4.25
416 F	X		4, 4, 4, 4, 8	4.80
417 F	X		4, 5, 5, 5	4.75
436 F	X		5, 4, 4, 4, 4	4.20

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX L  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F0 ESTROUS CYCLICITY DATA

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	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 4: 5.0 MG/KG/DAY				
443 F	X		5, 4, 4, 4, 4	4.20
451 F	X		6, 6, 4, 6	5.50
MEAN				4.63
S. D.				1.033
N				28

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 5: 10.0 MG/KG/DAY				
308 F	X		4, 4, 4, 4	4.00
318 F	X		4, 4, 4, 4, 4	4.00
319 F	X		4, 4, 4, 4, 4, 4	4.00
327 F	X		4, 4, 4, 4, 4, 4	4.00
331 F	X		4, 4, 4, 4, 4, 4	4.00
333 F	X		7, 4, 6, 6	5.75
336 F	X		5, 4, 4, 4, 4	4.17
337 F	X		4, 8, 8	6.67
352 F	X		4, 6, 4, 4	4.50
358 F	X		6, 4, 4, 4, 4, 5	4.60
362 F	X		4, 4, 4, 4, 4	4.00
364 F	X		5, 4, 4, 4, 4, 8	5.00
378 F	X		5, 4, 4, 5, 5	4.60
394 F	X		5, 5, 5, 5, 4	4.80
395 F	X		5, 5, 4, 5, 5	4.80
396 F	X		5, 4, 4, 4, 4, 4	4.17
399 F	X		4, 4, 6, 5	4.75
405 F	X		5, 4, 4, 4, 4	4.20
415 F	X		4, 4, 4, 4, 4, 4	4.00
434 F	X		4, 4, 4, 4, 4, 4, 4	4.00
435 F	X		5, 4, 4, 4, 4, 4	4.20
437 F	X		4, 4, 4, 4, 4, 4	4.00
438 F	X		4, 4, 4, 4, 4, 4	4.00
441 F	X		4, 4, 4, 4, 4, 4	4.00
448 F	X		4, 6, 9, 3	5.50
452 F	X		6, 5, 4, 4, 4	4.60

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX L  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F0 ESTROUS CYCLICITY DATA

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	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 5: 10.0 MG/KG/DAY				
626 F	X		6, 4, 4, 5, 2	4.20
627 F	X		8, 4, 4, 4, 4	5.00
MEAN				4.48
S. D.				0.646
N				28

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI Study No. 3472.4

APPENDIX M

Individual F0 Reproductive Performance Data

APPENDIX M  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO REPRODUCTIVE PERFORMANCE DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
306	21621	2	G
311	21623	3	G
317	21625	8	G
321	21630	1	G
323	21636	4	G
341	21638	3	G
345	21639	4	G
348	21640	1	G
353	21646	4	G
355	21647	a	G
369	21649	a	G
371	21652	3	G
380	21656	4	G
383	21660	a	NG
384	21665	2	G
387	21673	2	NG
388	21686	2	G
390	21688	3	G
400	21695	4	G
403	21703	2	G
408	21709	3	G
420	21719	3	G
425	21721	3	G
426	21723	1	G
427	21729	4	G
449	21738	3	G
450	21739	2	G
628	21761	1	G

G = GRAVID NG = NONGRAVID  
a PRESENCE OF SPERM WAS NOT DETECTED.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX M  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO REPRODUCTIVE PERFORMANCE DATA

GROUP 2: 1.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
310	21611	3	G
312	21612	3	G
313	21617	4	G
314	21618	2	G
324	21620	1	G
325	21631	2	G
329	21633	4	G
339	21641	2	G
354	21644	7	G
363	21620	3	NG
370	21664	2	G
377	21668	4	G
397	21679	3	G
406	21681	4	G
409	21685	4	G
411	21689	1	G
413	21690	4	G
419	21705	4	G
422	21713	4	G
423	21714	2	G
428	21717	2	G
429	21735	2	G
430	21736	3	G
431	21737	1	G
433	21741	1	NG
440	21748	2	G
447	21749	1	G
629	21757	2	G

G = GRAVID NG = NONGRAVID

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX M  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO REPRODUCTIVE PERFORMANCE DATA

GROUP 3: 2.5 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
304	21613	2	G
307	21624	1	G
332	21632	4	G
338	21650	3	G
340	21658	2	G
342	21659	4	G
343	21662	2	G
351	21663	1	G
356	21669	1	G
357	21671	3	G
359	21682	2	G
367	21691	2	G
368	21696	1	G
372	21698	3	G
373	21699	2	G
379	21701	1	NG
382	21706	2	G
385	21708	1	G
401	21718	4	NG
404	21722	4	G
412	21732	a	NG
418	21734	3	G
421	21744	1	G
432	21751	2	G
439	21755	2	G
444	21762	2	G
445	21763	4	G
625	21764	3	G

G = GRAVID NG = NONGRAVID  
a PRESENCE OF SPERM WAS NOT DETECTED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO REPRODUCTIVE PERFORMANCE DATA

APPENDIX M

GROUP 4: 5.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
303	21616	4	G
309	21619	6	NG
316	21634	2	G
320	21635	1	NG
326	21637	2	G
328	21642	7	G
330	21643	2	G
344	21645	2	G
346	21651	4	G
347	21654	1	G
350	21661	3	G
360	21666	4	G
361	21672	4	G
365	21674	2	G
374	21677	3	G
375	21680	1	G
381	21684	1	G
389	21687	3	G
393	21694	4	G
398	21702	3	G
402	21704	2	G
410	21711	1	G
414	21725	1	G
416	21728	4	G
417	21743	2	G
436	21750	1	G
443	21759	1	G
451	21765	3	G

G = GRAVID NG = NONGRAVID

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO REPRODUCTIVE PERFORMANCE DATA

APPENDIX M

GROUP 5: 10.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
308	21614	1	G
318	21627	2	G
319	21628	3	G
327	21629	4	G
331	21648	4	G
333	21667	3	G
336	21670	4	G
337	21676	1	G
352	21683	1	G
358	21692	4	G
362	21693	1	G
364	21707	4	G
378	21710	2	G
394	21715	3	G
395	21716	3	G
396	21720	4	G
399	21724	1	G
405	21726	2	G
415	21727	1	G
434	21730	4	G
435	21740	2	G
437	21745	4	G
438	21746	3	G
441	21752	2	G
448	21754	1	G
452	21756	2	G
626	21758	1	G
627	21760	1	G

G = GRAVID NG = NONGRAVID

(421)

SLI Study No. 3472.4

## APPENDIX N

Individual F0 Gestation Length Data

GROUP 1: 0 MG/KG/DAY			GROUP 2: 1.0 MG/KG/DAY			GROUP 3: 2.5 MG/KG/DAY			GROUP 4: 5.0 MG/KG/DAY			GROUP 5: 10.0 MG/KG/DAY		
ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH	
306	23		310	21		304	22		303	21		308	21	
311	22		312	22		307	22		316	22		318	22	
317	22		313	22		332	23		326	22		319	22	
321	22		314	22		338	22		328	23		327	22	
323	22		324	23		340	22		330	23		331	22	
341	22		325	22		342	22		344	22		333	22	
345	22		329	22		343	21		346	22		336	22	
348	22		339	24		351	22		347	22		337	22	
353	22		354	23		356	22		350	21		352	22	
371	22		363	22		357	22		360	22		358	22	
380	22		377	22		359	22		361	22		362	22	
384	21		397	22		367	22		365	22		364	22	
388	22		406	22		368	22		374	22		378	22	
390	22		409	22		372	21		375	22		394	21	
400	22		411	21		373	22		381	22		395	22	
403	21		413	22		382	22		389	22		396	22	
408	22		419	22		385	22		393	22		399	22	
420	23		422	22		404	22		398	22		405	22	
425	22		423	22		418	22		402	22		415	22	
426	22		428	22		421	22		410	22		434	23	
427	22		429	22		432	22		414	22		435	22	
449	22		430	22		439	22		416	22		437	22	
450	22		431	22		444	22		417	22		438	22	
628	22		440	22		445	21		436	22		441	23	
			447	22		625	22		443	22		448	22	
			629	22					451	21		452	22	
												626	22	
												627	21	
MEAN	20.0		MEAN	22.1		MEAN	21.9		MEAN	22.0		MEAN	22.0	
S.D.	0.4		S.D.	0.6		S.D.	0.4		S.D.	0.4		S.D.	0.5	
N	24		N	26		N	25		N	26		N	28	

**AN ORAL (GAVAGE) TWO-GENERATION  
REPRODUCTION TOXICITY STUDY IN  
SPRAGUE-DAWLEY RATS WITH  
NICKEL SULFATE HEXAHYDRATE**

FINAL REPORT  
Volume 2 of 3

Study Director

Joseph C. Siglin, Ph.D., DABT

Study Completed on

December 22, 2000

Performing Laboratory

Springborn Laboratories, Inc. (SLI)  
Ohio Research Center  
640 North Elizabeth Street  
Spencerville, OH 45887

SLI Study No.

3472.4

Submitted to:

NiPERA, Inc.  
2605 Meridian Parkway  
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Durham, NC 27713

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SLI Study No. 3472.4

APPENDIX O

Individual F0 Gross Necropsy Observations



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GROSS NECROPSY OBSERVATIONS

APPENDIX 0

PAGE 1

ANIMAL NO.	21657	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	FOUND DEAD	4/ 5/99	STUDY DAY	64	GRADE
						FOUND DEAD				
						GROSS: HAIRLOSS				P
						FOREPAWS				
ANIMAL NO.	21654	GROUP:	5.0 MG/KG/DAY	ESOPHAGUS	MALE	FOUND DEAD	4/22/99	STUDY DAY	81	P
						GROSS: CONTENT ABNORMAL				
						CONTAINS BLOOD				
				ORO-PHARYNX		GROSS: PERFORATION				P
						INTUBATION TRAUMA; EXTENDS INTO RIGHT AXILLARY AREA;				
						WITH ASSOCIATED SWELLING AND EDEMA; FOOD IMPACTED INTO				
						AXILLARY MUSCULATURE				
				STOMACH		GROSS: CONTENT ABNORMAL				P
						LARGE QUANTITY OF BLOOD				
				LARGE BOWEL		GROSS: CONTENT ABNORMAL				P
						PORTIONS OF ENTIRE TRACT, REDDISH-BLACK TAR-LIKE MATERIAL				
				SMALL BOWEL		GROSS: CONTENT ABNORMAL				P
						ENTIRE TRACT, RED MUCOID MATERIAL AND RED FLUID				

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GROSS NECROPSY OBSERVATIONS

APPENDIX 0

PAGE 2

ANIMAL NO.	GROUP	0 MG/KG/DAY	FEMALE	UTERUS	FOUND DEAD OR UNSCHEDULED EUTHANASIA	GRADE
341	GROUP: 0 MG/KG/DAY	5/18/99	FEMALE	UTERUS	UNSCHEDULED EUTHANASIA 5/18/99 STUDY DAY 107 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4,9	P
				GENERAL COMMENT	GROSS: EUTHANIZED FOR CAUSE DUE TO EXTREME AGGRESSION	P
309	GROUP: 5.0 MG/KG/DAY	5/3/99	FEMALE	MANDIBULAR L. N.	UNSCHEDULED EUTHANASIA 5/3/99 STUDY DAY 92 GROSS: ENLARGED	P
				MEDIASTINAL L. N.	SEVERAL; UP TO 0.8 X 0.6 X 0.2 CM GROSS: ENLARGED	P
				SKIN	SEVERAL; UP TO 1.0 X 0.7 X 0.3 CM GROSS: SUBCUTANEOUS MASS RIGHT AXILLARY AREA EXTENDING TO RIGHT LATERAL THORAX. SMALL PORTION EXTENDS INTO THORACIC CAVITY AND ATTACHES TO ESOPHAGUS; 5.7 X 3.8 X 2.5 CM; FIRM; MOTTLED RED AND BROWN; CUT SURFACE APPEARS TO CONSIST OF CONNECTIVE TISSUE AND BLOOD CLOTS	P
				SPLEEN	GROSS: ENLARGED	P
				UTERUS	6.2 X 1.5 X 0.9 CM	P
				EXT. APPEARANCE	GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE GROSS: HAIRCOAT - DARK MATERIAL	P
				EXT. APPEARANCE	AROUND RIGHT EYE AND NOSE, RED	P
				WHOLE BODY	GROSS: HAIRCOAT - WET MATTING VENTRAL ABDOMEN AND UROGENITAL AREA, YELLOW	P
452	GROUP: 10.0 MG/KG/DAY	5/14/99	FEMALE	KIDNEYS	FOUND DEAD 5/14/99 STUDY DAY 103 GROSS: TAN AREA(S) CORTICAL SURFACE OF RIGHT KIDNEY, EXTENDS SLIGHTLY INTO CORTEX; ONE; 0.2 CM DIAMETER	P
				LUNG/BRONCHI	GROSS: CONSOLIDATED ALL LOBES; SLIGHT; CLEAR COLORLESS FOAMY FLUID EXUDES FROM CUT SURFACES	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX 0  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GROSS NECROPSY OBSERVATIONS

PAGE 3

ANIMAL NO.	452 (CONTINUED)	FOUND DEAD OR UNSCHEDULED EUTHANASIA	GRADE
	LUNG/BRONCHI	GROSS: MOTTLED	P
	UTERUS	ALL LOBES: DARK RED, RED AND TAN GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	P
	EXT. APPEARANCE	10, 5 GROSS: HAIRCOAT - DARK MATERIAL AROUND EYES, NOSE, MOUTH AND FORELIMBS, RED	P
	BLOOD	GROSS: THIN AND WATERY	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO GROSS NECROPSY OBSERVATIONS

APPENDIX 0

PAGE 4

ANIMAL NO.	GROUP:	0 MG/KG/DAY KIDNEYS	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106	GRADE
21621	GROUP:	0 MG/KG/DAY KIDNEYS	MALE	SCHEDULED EUTHANASIA GROSS: DILATED PELVIS RIGHT	5/17/99	STUDY DAY 106	1
21623	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/17/99	STUDY DAY 106	
21625	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/17/99	STUDY DAY 106	
21630	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/17/99	STUDY DAY 106	
21636	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/17/99	STUDY DAY 106	
21638	GROUP:	0 MG/KG/DAY EYES	MALE	SCHEDULED EUTHANASIA GROSS: REDDENED RIGHT; ENTIRE GLOBE	5/17/99	STUDY DAY 106	P
21639	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/18/99	STUDY DAY 107	
21640	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/18/99	STUDY DAY 107	
21646	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/18/99	STUDY DAY 107	
21647	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/18/99	STUDY DAY 107	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO GROSS NECROPSY OBSERVATIONS

APPENDIX 0

PAGE 5

GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107
21649	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21652	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21656	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/19/99 STUDY DAY 108
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21660	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/19/99 STUDY DAY 108
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21665	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/19/99 STUDY DAY 108
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21673	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/19/99 STUDY DAY 108
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21686	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/20/99 STUDY DAY 109
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21688	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/20/99 STUDY DAY 109
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21695	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/20/99 STUDY DAY 109
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21703	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/20/99 STUDY DAY 109
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21709	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/20/99 STUDY DAY 109
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	21719	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21721	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21723	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21729	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21738	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21739	GROUP:	0 MG/KG/DAY EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: HAIRCOAT - DARK MATERIAL AROUND NOSE, RED	P
ANIMAL NO.	21761	GROUP:	0 MG/KG/DAY SPLEEN	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: GRAY AREA(S) SUPERIOR SURFACE, ONE, 0.4 X 0.2 CM	P
ANIMAL NO.	21611	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21612	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21617	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	DOSE	SEX	ORGAN	DATE	STUDY DAY	GRADE
21618	GROUP:	1.0 MG/KG/DAY	MALE	KIDNEYS	SCHEDULED EUTHANASIA	5/17/99 STUDY DAY 106	1
GROSS: DILATED PELVIS RIGHT							
21620	GROUP:	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA	5/17/99 STUDY DAY 106	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21631	GROUP:	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA	5/17/99 STUDY DAY 106	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21633	GROUP:	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21641	GROUP:	1.0 MG/KG/DAY	MALE	KIDNEYS	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	1
GROSS: DILATED PELVIS RIGHT, CLOUDY WHITE FLUID CONTENTS							
GROSS: CONTENT ABNORMAL CLOUDY WHITE FLUID							
21644	GROUP:	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21664	GROUP:	1.0 MG/KG/DAY	MALE	TESTES	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	P
GROSS: LESION BILATERAL; SMALL, EACH 1.7 X 0.9 X 0.8 CM; SOFT; DISCOLORED TANNISH-PURPLE							
21668	GROUP:	1.0 MG/KG/DAY	MALE	LUNG/BRONCHI	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	P
GROSS: MOTTLED ALL LOBES, DARK RED AND GRAY, IRREGULARLY SHAPED AREAS							
THORACIC CAVITY							
GROSS: ADHESION INVOLVING LUNGS, DIAPHRAGM AND ADIPOSE TISSUE							
EXT. APPEARANCE							
GROSS: PINNA(E) - SWOLLEN BILATERAL							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	DOSE:	SEX:	ORAL CAVITY:	SCHEDULED EUTHANASIA	GRADE
21679	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE	ORAL CAVITY	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: INCISOR(S) - BROKEN UPPER LEFT	P
21681	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21685	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE	THYMUS GLAND	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: FOCI BOTH LOBES; MULTIPLE; UP TO 0.1 CM DIAMETER; DARK RED	P
21689	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21690	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21705	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21713	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21714	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21717	GROUP: 1.0 MG/KG/DAY	1.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

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ANIMAL NO.	GROUP	DOSE	SEX	PARAMETER	OBSERVATION	GRADE
21735	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99	STUDY DAY 109	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21736	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21737	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: CALCULI LEFT, ONE, PINPOINT	P
21741	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21748	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21749	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: HAIRLOSS LEFT FORELIMB	P
21757	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99	STUDY DAY 110	GROSS: INCISOR(S) - BROKEN UPPERS AND LEFT LOWER	P
21613	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99	STUDY DAY 106	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21624	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99	STUDY DAY 106	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21632	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/17/99	STUDY DAY 106	GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	21650	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21658	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21659	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21662	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21663	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21669	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21671	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21682	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	21691	GROUP:	2.5 MG/KG/DAY EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107
					GROSS: HAIRLOSS VENTRAL ABDOMEN		
							P
ANIMAL NO.	21696	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/19/99	STUDY DAY 108
					GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA		GRADE	
ANIMAL NO.	21698 GROUP: 2.5 MG/KG/DAY EXT. APPEARANCE MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: HAIRLOSS LEFT FOREPAW	P
ANIMAL NO.	21699 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21701 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21706 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21708 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21718 GROUP: 2.5 MG/KG/DAY LIVER	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: TAN AREA(S) PERIPHERY OF BIFURCATION OF MEDIAL LOBE, ONE, 0.3 X 0.2 CM	P
ANIMAL NO.	21722 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21732 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	21734 GROUP: 2.5 MG/KG/DAY ORAL CAVITY	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: INCISOR(S) - BROKEN UPPERS	P
ANIMAL NO.	21744 GROUP: 2.5 MG/KG/DAY MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

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ANIMAL NO.	GROUP	SEX	GENERAL COMMENT	SCHEDULED EUTHANASIA	GRADE
21751	2.5 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21755	2.5 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21762	2.5 MG/KG/DAY KIDNEYS	MALE		SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: DILATED PELVIS RIGHT	1
	KIDNEYS			GROSS: CALCULI RIGHT, SEVERAL, PINPOINT	P
21763	2.5 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21764	2.5 MG/KG/DAY GENERAL COMMENT	MALE		SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: FINAL CLINICAL OBSERVATION NOT APPARENT POSTMORTEM INCISOR(S) PRESENT	P
21616	5.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21619	5.0 MG/KG/DAY	MALE		SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
21634	5.0 MG/KG/DAY EXT. APPEARANCE	MALE		SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: HAI RLOSS FOREPAWS	P
21635	5.0 MG/KG/DAY KIDNEYS	MALE		SCHEDULED EUTHANASIA 5/17/99 STUDY DAY 106 GROSS: DILATED PELVIS RIGHT	1

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

ANIMAL NO.	GROUP	TESTES	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
21637	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99 STUDY DAY 106	P
GROSS: LESION LEFT; SMALL, 2.2 X 1.1 X 1.0 CM; SOFT; SLIGHTLY DISCOLORED, TANNISH-PURPLE					
21642	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99 STUDY DAY 106	
GROSS: NO SIGNIFICANT CHANGES OBSERVED					
21643	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	P
GROSS: SCABBING PROXIMAL TAIL, FEW					
21645	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	P
GROSS: PERFORATION CRANIAL PORTION; WITH ASSOCIATED THICKENING OF MUSCLE TISSUE IN SURROUNDING AREA AND A LARGE AMOUNT OF FOOD MATERIAL IN RIGHT AXILLARY AREA					
		SKIN	GROSS: SUBCUTANEOUS EDEMA		P
		EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL AROUND NOSE AND MOUTH, RED		P
21651	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	P
GROSS: SMALL RIGHT; APPROXIMATELY 50% SMALLER THAN LEFT					
		TESTES	GROSS: LESION RIGHT; SMALL, 1.5 X 1.0 X 0.5 CM; SOFT; DISCOLORED TANNISH-PURPLE		P
21661	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99 STUDY DAY 107	
GROSS: NO SIGNIFICANT CHANGES OBSERVED					

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	21666	21672	21674	21677	21680	21684	21687	21694	21702
GROUP:	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY EPIDIDYMIDES PROSTATE TESTES	5.0 MG/KG/DAY	5.0 MG/KG/DAY
SEX:	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE
SCHEDULED EUTHANASIA:	5/18/99	5/19/99	5/19/99	5/19/99	5/19/99	5/20/99	5/20/99	5/20/99	5/20/99
STUDY DAY:	107	108	108	108	108	109	109	109	109
GROSS:	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	SMALL LEFT, APPROXIMATELY 60% SMALLER THAN RIGHT TAN AREA(S) PERIPHERY OF LEFT DORSAL PORTION, ONE, 0.3 X 0.4 CM LESION LEFT SMALL - 1.5 X 1.0 X 0.5 CM, SOFT, DISCOLORED TANNISH-PURPLE	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED
GRADE:							P		P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	21704	21711	21725	21728	21743	21750	21759
GROUP:	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY	5.0 MG/KG/DAY
SEX:	MALE	MALE	MALE	MALE	MALE	MALE	MALE
ORGAN:	SKIN		KIDNEYS	KIDNEYS	KIDNEYS	URINARY BLADDER	LUNG/BRONCHI THYMUS GLAND
SCHEDULED EUTHANASIA	5/20/99	5/20/99	5/21/99	5/21/99	5/21/99	5/21/99	5/21/99
STUDY DAY	109	109	110	110	110	110	110
GROSS:	SCABBING LEFT CORNER MOUTH, FEW	NO SIGNIFICANT CHANGES OBSERVED	CALCULI BILATERAL, MULTIPLE, UP TO 0.1 CM DIAMETER; LEFT - SMALL AMOUNT OF CLOUDY WHITE FLUID	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	FOCI ALL LOBES, MULTIPLE, UP TO 0.2 CM DIAMETER, GRAY, SOME RAISED FOCI BOTH LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, RED
GRADE	P		P				P P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	DOSE	SEX	ORGAN	DATE	STUDY DAY	GRADE
21765	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/21/99	STUDY DAY 110		
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21614	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21627	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		P
GROSS: LESION RIGHT: SMALL, 2.2 X 1.2 X 1.0 CM; SOFT; DISCOLORED, TANNISH-PURPLE							
21628	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		P
GROSS: CALCULI BILATERAL, SEVERAL, PINPOINT							
GROSS: INCISOR(S) - BROKEN UPPERS							
21629	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21648	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21667	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/17/99	STUDY DAY 106		P
GROSS: FOCI ALL LOBES, MULTIPLE, PINPOINT, TAN							
21670	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107		
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
21676	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/18/99	STUDY DAY 107		P
GROSS: FOCI ALL LOBES, MULTIPLE, UP TO 0.2 CM DIAMETER, GRAY, SOME RAISED							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	GRADE
21683	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/18/99 STUDY DAY 107 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21692	10.0 MG/KG/DAY LUNG/BRONCHI	MALE	SCHEDULED EUTHANASIA 5/18/99 STUDY DAY 107 GROSS: FOCI ALL LOBES, MULTIPLE, PINPOINT, TAN	P	
21693	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/18/99 STUDY DAY 107 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21707	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/18/99 STUDY DAY 107 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21710	10.0 MG/KG/DAY LUNG/BRONCHI	MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: FOCI ALL LOBES, SEVERAL, UP TO 0.2 CM DIAMETER, GRAY, SOME FIRM	P	
21715	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21716	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21720	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/19/99 STUDY DAY 108 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21724	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED		
21726	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	21727	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21730	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21740	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21745	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/20/99 STUDY DAY 109 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21746	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21752	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21754	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21756	GROUP:	10.0 MG/KG/DAY LUNG/BRONCHI	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: FOCI ALL LOBES, MULTIPLE, PINPOINT, GRAY, SOME FIRM
ANIMAL NO.	21758	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	21760	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/21/99 STUDY DAY 110 GROSS: NO SIGNIFICANT CHANGES OBSERVED

P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	GRADE
306	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 2, 4	P
311	GROUP:	0 MG/KG/DAY KIDNEYS	FEMALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: ADHESION RIGHT, SMALL AMOUNT OF BURSA ADHERED TO CORTICAL SURFACE, 0.1 CM DIAMETER	P
317	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 8	P
321	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 6/ 2/99 STUDY DAY 122 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4, 10	P
323	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	GROSS: HAIRLOSS LEFT FORELIMB	P
345	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 7	P
348	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 9	P
348	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 9	P
348	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 11, 3	P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
353	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY 118	P
			LUNG/BRONCHI	GROSS: FOCI		
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
				ALL LOBES: MULTIPLE; PINPOINT; TAN		
				9, 7		
355	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		
				10, 6		
371	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		
				0, 5		
380	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY 118	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		
				6, 8		
384	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY 115	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		
			EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL		P
				8, 5		
				AROUND NOSE, RED		
388	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		
			EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL		P
				8, 6		
				AROUND NOSE, RED		
390	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
			DIAPHRAGM	GROSS: HERNIA		
				MUSCULO-TENDINOUS PORTION, 0.3 CM DIAMETER, PORTION OF RIGHT		
				LIVER LOBE MISSHAPEN AND EXTENDS INTO THORACIC CAVITY		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

ANIMAL NO.	390 (CONTINUED)	KIDNEYS	SCHEDULED EUTHANASIA	GRADE
			GROSS: ADHESION RIGHT, SMALL PORTION OF BURSA ADHERED TO CORTICAL SURFACE; 0.1 CM DIAMETER	P
		UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	P
ANIMAL NO. 400	GROUP: 0 MG/KG/DAY	FEMALE LUNG/BRONCHI	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: FOCI ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, RED GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 6	P
ANIMAL NO. 403	GROUP: 0 MG/KG/DAY	FEMALE UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 10, 4	P
ANIMAL NO. 408	GROUP: 0 MG/KG/DAY	FEMALE UTERUS	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	P
ANIMAL NO. 420	GROUP: 0 MG/KG/DAY	FEMALE UTERUS	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 1, 5	P
ANIMAL NO. 425	GROUP: 0 MG/KG/DAY	FEMALE UTERUS	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	P
ANIMAL NO. 426	GROUP: 0 MG/KG/DAY	FEMALE THYROID/PARATHY	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: HEMORRHAGIC AREA(S) LEFT, ONE, 0.5 X 0.3 CM, AREA EXTENDS ONTO TRACHEA, ESOPHAGUS, AND SURROUNDING MUSCULATURE	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	426 (CONTINUED)	UTERUS	SCHEDULED EUTHANASIA	GRADE
ANIMAL NO.	427	GROUP: 0 MG/KG/DAY KIDNEYS FEMALE LUNG/BRONCHI UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 8 SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: DILATED PELVIS RIGHT GROSS: FOCI ALL LOBES, MULTIPLE, PINPOINT, TAN GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 9	1 P P
ANIMAL NO.	449	GROUP: 0 MG/KG/DAY UTERUS FEMALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 7	P
ANIMAL NO.	450	GROUP: 0 MG/KG/DAY KIDNEYS FEMALE UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: CYST(S) LEFT, CORTICAL SURFACE; ONE; 0.3 CM DIAMETER; APPEARS CLEAR FLUID FILLED GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 10	P P
ANIMAL NO.	628	GROUP: 0 MG/KG/DAY UTERUS FEMALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4, 8	P
ANIMAL NO.	310	GROUP: 1.0 MG/KG/DAY UTERUS EXT. APPEARANCE LEFT FORELIMB	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 3 GROSS: HAIRLOSS LEFT FORELIMB	P P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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		SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	312	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9,4	P
ANIMAL NO.	313	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4,4	P
ANIMAL NO.	314	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9,4	P
ANIMAL NO.	324	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8,5	P
ANIMAL NO.	325	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4,9	P
ANIMAL NO.	329	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6,9	P
ANIMAL NO.	354	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 6/2/99 STUDY DAY 122 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9,7	P
ANIMAL NO.	363	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 5/30/99 STUDY DAY 119 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 10,6	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	DOSE	SEX	ANATOMY	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
377	1.0 MG/KG/DAY	FEMALE	JEJUNUM	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 118	
				GROSS: CONTENT ABNORMAL			P
			UTERUS	RED MUCOID MATERIAL MIXED WITH DIGESTA			P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			
			EXT. APPEARANCE	10, 6			P
				GROSS: HAIRLOSS			
				FORELIMBS AND VENTRAL THORAX			
397	1.0 MG/KG/DAY	FEMALE	LUNG/BRONCHI	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY 117	P
				GROSS: FOCI			
			ORAL CAVITY	ALL LOBES, MULTIPLE, PINPOINT TO 0.1 CM DIAMETER, TAN			P
				GROSS: INCISOR(S) - BROKEN			
			UTERUS	RIGHT UPPER			P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			
				9, 6			P
406	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 118	P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			
				5, 12			
409	1.0 MG/KG/DAY	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 118	P
				GROSS: ADHESION			
				RIGHT: SMALL AMOUNT OF BURSA ADHERED TO CORTICAL SURFACE,			
				0.1 CM IN DIAMETER			
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			P
				7, 6			
411	1.0 MG/KG/DAY	FEMALE	LUNG/BRONCHI	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY 114	P
				GROSS: DARK RED AREA(S)			
				ALL LOBES, MULTIPLE, UP TO 0.2 CM DIAMETER			
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			P
				5, 8			

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ANIMAL NO.	GROUP	DOSE	SEX	ORGAN	SCHEDULED EUTHANASIA	GRADE
413	GROUP: 1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/29/99	STUDY DAY 118	P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	8, 8	
419	GROUP: 1.0 MG/KG/DAY	FEMALE	LUNG/BRONCHI	SCHEDULED EUTHANASIA 5/29/99	STUDY DAY 118	P
			UTERUS	GROSS: FOCI		
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	ALL LOBES, SEVERAL, UP TO 0.3 CM DIAMETER, DARK RED	
					5, 9	
422	GROUP: 1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/29/99	STUDY DAY 118	P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	5, 9	
423	GROUP: 1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99	STUDY DAY 116	P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	8, 7	
428	GROUP: 1.0 MG/KG/DAY	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA 5/27/99	STUDY DAY 116	P
			UTERUS	GROSS: PITTED		
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	RIGHT; CORTICAL SURFACE; FEW; PINPOINT	
					5, 11	
429	GROUP: 1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99	STUDY DAY 116	P
			EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL		
					AROUND RIGHT EYE, RED	
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	13, 1	
430	GROUP: 1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/28/99	STUDY DAY 117	P
				GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	8, 10	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	MG/KG/DAY	SEX	CAVITY	SCHEDULED EUTHANASIA	GRADE
431	1.0	1.0	FEMALE	ORAL CAVITY	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: INCISOR(S) - BROKEN UPPERS GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 11, 5	P
440	1.0	1.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 9	P
447	1.0	1.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 14, 4	P
629	1.0	1.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 12 GROSS: HAIRLOSS FOREPAWS	P
304	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 11, 5 GROSS: TAIL - DISCOLORATION POSTERIOR PORTION; BLUE GROSS: HAIRCOAT - DARK MATERIAL AROUND LEFT EYE; RED	P
307	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 5	P

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	332 GROUP: 2.5 MG/KG/DAY FEMALE UTERUS EXT. APPEARANCE	
	GROSS: PINNA(E) - THICKENED RIGHT	P
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 0, 5	P
ANIMAL NO.	338 GROUP: 2.5 MG/KG/DAY FEMALE LUNG/BRONCHI UTERUS	
	GROSS: FOCI ALL LOBES; MULTIPLE; UP TO 0.1 CM DIAMETER; RED	P
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 11, 4	P
ANIMAL NO.	340 GROUP: 2.5 MG/KG/DAY FEMALE MAMMARY GLAND UTERUS	
	GROSS: PALE LEFT LATERAL ABDOMEN, AREA APPROXIMATELY 5.0 X 3.0 CM, FIRMER THAN NORMAL	P
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 4	P
ANIMAL NO.	342 GROUP: 2.5 MG/KG/DAY FEMALE UTERUS	
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 2	P
ANIMAL NO.	343 GROUP: 2.5 MG/KG/DAY FEMALE UTERUS EXT. APPEARANCE	
	GROSS: PINNA(E) - THICKENED RIGHT	P
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	P
ANIMAL NO.	351 GROUP: 2.5 MG/KG/DAY FEMALE UTERUS	
	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 2, 13	P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

ANIMAL NO.	GROUP	MG/KG/DAY	SEX	ORGAN	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
356	2.5	2.5	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 115
					GROSS: PITTED		P
				UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
				EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL		P
					AROUND NOSE, RED		
357	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY 117
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
					6, 8		
359	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 116
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
				EXT. APPEARANCE	GROSS: HAIRLOSS		P
					FORELIMBS, HINDLIMBS, VENTRAL NECK AND VENTRAL THORAX		
367	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 116
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
					7, 8		
368	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 115
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
					7, 7		
372	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 116
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
					9, 8		
373	2.5	2.5	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 116
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)		P
					5, 10		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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ANIMAL NO.	GROUP	SEX	UTERUS	EXT. APPEARANCE	GROSS	STUDY DAY	GRADE
382	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 5/27/99 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4, 8	STUDY DAY 116	P
385	2.5 MG/KG/DAY	FEMALE	MAMMARY GLAND		SCHEDULED EUTHANASIA 5/26/99 GROSS: MASS MASS #1 - LOCATED IN RIGHT INGUINAL AREA; FIRM SOLID; 2.5 X 1.0 X 0.8 CM, TAN	STUDY DAY 115	P
404	2.5 MG/KG/DAY	FEMALE	UTERUS		GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 0, 7	STUDY DAY 118	P
418	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 5/28/99 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 6	STUDY DAY 117	P
421	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 5/26/99 GROSS: PITTED BILATERAL, CORTICAL SURFACE, SEVERAL, UP TO 0.1 CM DIAMETER GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	STUDY DAY 115	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	MG/KG/DAY	SEX	UTERUS	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
432	2.5	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	9,7	P
					GROSS: FORELIMBS		
439	2.5	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	9,6	P
444	2.5	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	10,6	P
445	2.5	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	6,7	P
625	2.5	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	5,7	P
303	5.0	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 117	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	8,6	P
316	5.0	MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
					GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
					GROSS: HAIRLOSS	8,5	P
					GROSS: FOREPAWS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	326 GROUP: 5.0 MG/KG/DAY FEMALE UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 9
ANIMAL NO.	328 GROUP: 5.0 MG/KG/DAY FEMALE ORAL CAVITY	SCHEDULED EUTHANASIA 6/ 2/99 STUDY DAY 122 GROSS: INCISOR(S) - MALALIGNED UPPERS
	UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 4
	EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL AROUND RIGHT EYE, RED
ANIMAL NO.	330 GROUP: 5.0 MG/KG/DAY FEMALE KIDNEYS	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: PITTED
	KIDNEYS	RIGHT CORTICAL SURFACE: ONE, 0.3 X 0.2 CM
	UTERUS	LEFT, BURSA ADHERED TO CORTICAL SURFACE, 0.1 CM DIAMETER GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4, 2
ANIMAL NO.	344 GROUP: 5.0 MG/KG/DAY FEMALE KIDNEYS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: PITTED
	UTERUS	RIGHT, CORTICAL SURFACE: ONE; 0.2 X 0.1 CM
	EXT. APPEARANCE	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 9
		GROSS: HAIRLOSS FORELIMBS
ANIMAL NO.	346 GROUP: 5.0 MG/KG/DAY FEMALE UTERUS	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 10, 6

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP	SEX	UTERUS	SCHEDULED EUTHANASIA	GRADE
347	5.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 9	P
350	5.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 7	P
360	5.0 MG/KG/DAY	FEMALE	ORAL CAVITY	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: INCISOR(S) - BROKEN UPPER LEFT	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	P
361	5.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 7	P
365	5.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 3, 8	P
			EXT. APPEARANCE	GROSS: PINNA(E) - SMALL RIGHT	P
374	5.0 MG/KG/DAY	FEMALE	ORAL CAVITY	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 117 GROSS: INCISOR(S) - BROKEN UPPERS	P
			UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 8	P
			EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL AROUND NOSE, RED	P
			EXT. APPEARANCE	GROSS: HAIRLOSS RIGHT FORELIMB	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
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ANIMAL NO.	GROUP:	5.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
375				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	5/26/99 STUDY DAY 115	P
381				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	5/26/99 STUDY DAY 115	P
389				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 10, 5	5/28/99 STUDY DAY 117	P
393				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 7	5/29/99 STUDY DAY 118	P
398				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 5	5/28/99 STUDY DAY 117	P
402				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 10, 4	5/27/99 STUDY DAY 116	P
410				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 6	5/26/99 STUDY DAY 115	P
414				SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 6	5/26/99 STUDY DAY 115	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	MG/KG/DAY	SEX	UTERUS	SCHEDULED EUTHANASIA	GRADE
416	5.0	5.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 8	P
417	5.0	5.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	P
			EXT. APPEARANCE		GROSS: HAIRLOSS FOREPAWS	P
436	5.0	5.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 6	P
			EXT. APPEARANCE		GROSS: HAIRLOSS FOREPAWS	P
443	5.0	5.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 6	P
451	5.0	5.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 10	P
308	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/25/99 STUDY DAY 114 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 7	P
318	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 4, 8	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	DOSE	SEX	DIAPHRAGM	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
319	10.0 MG/KG/DAY	FEMALE			SCHEDULED EUTHANASIA GROSS: THIN AREA(S)	5/28/99 STUDY DAY 117	P
				UTERUS	INCOMPLETE HERNIATION OF TENDINOUS PORTION, ONE, 0.4 CM DIAMETER, PORTION OF MEDIAL LIVER LOBE MISSHAPEN AND EXTENDS INTO THIN AREA		P
				EXT. APPEARANCE	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 8		P
327	10.0 MG/KG/DAY	FEMALE			SCHEDULED EUTHANASIA GROSS: FOCI	5/29/99 STUDY DAY 118	P
				UTERUS	ALL LOBES, MULTIPLE, PINPOINT, TAN AND GRAY, SOME FIRM		P
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 1		P
331	10.0 MG/KG/DAY	FEMALE			SCHEDULED EUTHANASIA GROSS: FOCI	5/29/99 STUDY DAY 118	P
				UTERUS	ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, GRAY AND RED		P
					GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 9		P
333	10.0 MG/KG/DAY	FEMALE			SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	5/28/99 STUDY DAY 117	P
				UTERUS	0, 10		P
				EXT. APPEARANCE	GROSS: HAIRLOSS FORELIMBS		P
336	10.0 MG/KG/DAY	FEMALE			SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)	5/29/99 STUDY DAY 118	P
				UTERUS	6, 9		P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP	MG/KG/DAY	SEX	UTERUS	SCHEDULED EUTHANASIA	GRADE
337	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 3	P
352	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	P
358	10.0	10.0	FEMALE	ORAL CAVITY	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: INCISOR(S) - ABSENT UPPER LEFT	P
				UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 9	P
				EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL AROUND LEFT EYE; RED	P
362	10.0	10.0	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 115 GROSS: PITTED LEFT CORTEX; ONE; 0.3 CM DIAMETER	P
				UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 0, 5	P
364	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 118 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 6	P
378	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 6, 8	P
394	10.0	10.0	FEMALE	UTERUS	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 116 GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
395	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 6	5/28/99 STUDY DAY 117	P
396	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 9	5/29/99 STUDY DAY 118	P
399	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 5, 9	5/26/99 STUDY DAY 115	P
405	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 7, 7	5/27/99 STUDY DAY 116	P
415	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	5/26/99 STUDY DAY 115	P
434	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 11, 8	5/30/99 STUDY DAY 119	P
435	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 9, 7	5/27/99 STUDY DAY 116	P
437	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS - (LEFT, RIGHT) 8, 8	5/30/99 STUDY DAY 119	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	GRADE
438	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
				GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
				6, 10		
441	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 117	P
				GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
				6, 10		
448	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 116	P
				GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
				2, 2		
		EXT. APPEARANCE		GROSS: PINNA(E) - THICKENED		P
				BILATERAL; WITH ASSOCIATED REDNESS		
		EXT. APPEARANCE		GROSS: HAIRLOSS		P
				ABDOMINAL AREA		
626	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY 115	P
				GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
				9, 4		
627	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	5/25/99 STUDY DAY 114	P
				GROSS: IMPLANTATION SCARS -	(LEFT, RIGHT)	
				10, 3		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	TOTAL LITTER LOSS	GRADE
339	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/ 8/99	STUDY DAY 97	
	STOMACH	GROSS: CONTENT ABNORMAL				P
	UTERUS	GROSS: RETAINED PUP			CLEAR DARK RED MUCOID-LIKE FLUID MIXED WITH NORMAL INGESTA	P
	UTERUS	GROSS: IMPLANTATION SCARS - (LEFT, RIGHT)			LEFT HORN, 4.8 CM IN LENGTH, APPEARS NORMAL EXTERNALLY WITH NO AUTOLYSIS; ALSO RETAINED EMPTY PLACENTAS - 2, LEFT, 1, RIGHT; 2 EARLY RESORPTIONS ALSO PRESENT IN LEFT HORN	P
	GENERAL COMMENT	GROSS: TOTAL LITTER LOSS			9,2	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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ANIMAL NO.	GROUP	MG/KG/DAY	SEX	ORGAN	STUDY DAY	GRADE
387	0	0	FEMALE	LUNG/BRONCHI	5/ 9/99 STUDY DAY 98	P
				GROSS: DARK RED AREA(S)		
				GROSS: ALL LOBES; SEVERAL; IRREGULARLY SHAPED		
				GROSS: UTERUS		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		
370	1.0	1.0	FEMALE	UTERUS	5/ 9/99 STUDY DAY 98	P
				GROSS: SCHEDULED EUTHANASIA		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		
433	1.0	1.0	FEMALE	UTERUS	5/ 8/99 STUDY DAY 97	P
				GROSS: SCHEDULED EUTHANASIA		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		
379	2.5	2.5	FEMALE	UTERUS	5/ 8/99 STUDY DAY 97	P
				GROSS: SCHEDULED EUTHANASIA		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: EXT. APPEARANCE		
				GROSS: HAI RLOSS		
				GROSS: FORELIMBS		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		
401	2.5	2.5	FEMALE	UTERUS	5/11/99 STUDY DAY 100	P
				GROSS: SCHEDULED EUTHANASIA		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		
320	5.0	5.0	FEMALE	UTERUS	5/ 8/99 STUDY DAY 97	P
				GROSS: SCHEDULED EUTHANASIA		
				GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE		
				GROSS: GENERAL COMMENT		
				GROSS: GESTATION DAY 25		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



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ANIMAL NO.	GROUP	MG/KG/DAY	SEX	UTERUS	GENERAL COMMENT	SCHEDULED EUTHANASIA	POSTBREEDING PERIOD DAY	STUDY DAY	GRADE
369	0	0	FEMALE	UTERUS		SCHEDULED EUTHANASIA	5/20/99	STUDY DAY 109	P
					GROSS: GRAVID -- AMMONIUM SULFIDE POSITIVE TWO IMPLANTATION SCARS PRESENT ON RIGHT HORN				
					GENERAL COMMENT				P
383	0	0	FEMALE	UTERUS		SCHEDULED EUTHANASIA	5/20/99	STUDY DAY 109	P
					GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE				
					GENERAL COMMENT				P
412	2.5	2.5	FEMALE	UTERUS		SCHEDULED EUTHANASIA	5/20/99	STUDY DAY 109	P
					GROSS: NONGRAVID - AMMONIUM SULFIDE NEGATIVE				
					GENERAL COMMENT				P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI Study No. 3472.4

APPENDIX P

Individual F0 Implantation and Post-Implantation Loss Data

APPENDIX P  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO IMPLANTATION AND POST-IMPLANTATION LOSS DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
G	6	6	0
G	17	16	1
G	14	14	0
G	15	13	2
G	17	15	2
G	13	13	0
G	14	12	2
G	14	13	1
G	16	13	3
G	16	16	0
G	5	5	0
G	14	14	0
G	13	13	0
G	14	13	1
G	16	16	0
G	13	10	3
G	14	14	0
G	14	14	0
G	6	5	1
G	14	13	1
G	17	17	0
G	14	13	1
G	15	12	3
G	16	14	2
G	12	12	0
MEAN	13.6	12.6	0.9
S. D.	3.27	3.15	1.08
N	25	25	25

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX P  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO IMPLANTATION AND POST-IMPLANTATION LOSS DATA

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
G	12	10	2
310	13	11	2
G	8	8	0
313	13	12	1
G	13	13	0
314	13	13	0
G	15	14	1
324	11	0	11
G	16	12	4
325	16	12	4
G	16	15	1
329	15	14	1
G	17	15	2
339	13	12	1
G	13	13	0
354	16	15	1
G	14	14	0
363	14	14	0
G	15	14	1
377	16	14	1
G	14	14	0
397	15	14	1
G	18	17	1
406	16	16	0
G	14	13	1
409	14	14	0
G	14	14	0
411	16	14	1
G	14	13	1
413	14	14	1
G	15	14	1
419	16	16	0
G	14	14	0
422	14	14	0
G	16	14	1
423	14	13	1
G	18	17	1
428	16	16	0
G	16	16	0
429	18	16	2
G	18	16	2
430	18	17	1
G	16	16	0
431	18	16	0
G	18	16	2
440	18	16	2
G	18	17	1
447	18	17	1
G	18	17	1
629	18	17	1
G	18	17	1
MEAN	14.6	13.1	1.5
S. D.	2.32	3.39	2.23
N	26	26	26

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

APPENDIX P  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO IMPLANTATION AND POST-IMPLANTATION LOSS DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
G	16	14	2
G	14	14	0
G	5	5	0
G	15	14	1
G	12	11	1
G	11	7	4
G	16	13	3
G	15	12	3
G	15	15	0
G	14	13	1
G	17	16	1
G	15	11	4
G	14	14	0
G	17	13	4
G	15	14	1
G	12	11	1
G	7	7	0
G	12	11	1
G	15	14	1
G	14	13	1
G	16	16	0
G	15	15	0
G	16	16	0
G	13	13	0
G	12	12	0
MEAN	13.7	12.6	1.2
S. D.	2.85	2.81	1.37
N	25	25	25

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

APPENDIX P  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO IMPLANTATION AND POST-IMPLANTATION LOSS DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
G	14	11	3
G	13	12	1
G	15	14	1
G	11	10	1
G	6	3	3
G	14	12	2
G	16	15	1
G	15	13	2
G	13	12	1
G	14	13	1
G	15	14	1
G	11	11	0
G	13	13	0
G	16	15	1
G	14	14	0
G	15	11	4
G	15	14	1
G	12	9	3
G	14	14	0
G	14	14	0
G	13	12	1
G	14	14	0
G	16	16	0
G	14	12	2
G	13	10	3
G	17	16	1
MEAN	13.7	12.5	1.3
S. D.	2.15	2.66	1.15
N	26	26	26

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

APPENDIX P  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO IMPLANTATION AND POST-IMPLANTATION LOSS DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
G	16	15	1
308	12	11	1
318	14	9	5
319	6	5	1
327	15	15	0
331	10	10	0
333	15	13	2
336	12	8	4
337	14	12	2
352	16	13	3
358	5	5	0
362	13	13	0
364	14	8	6
378	14	14	0
394	15	14	1
395	16	16	0
396	14	14	0
399	14	9	5
405	16	16	0
415	19	13	6
434	16	15	1
435	16	10	6
437	16	15	1
438	16	11	5
441	4	4	0
448	15	9	6
452	13	12	1
626	13	11	2
627			
MEAN	13.5	11.4	2.1
S. D.	3.48	3.37	2.27
N	28	28	28

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

(472)

SLI Study No. 3472.4

## APPENDIX Q

Individual F0 Absolute Organ Weight Data



APPENDIX Q  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES			TESTES		LIVER
										YMS	TESTES	LEFT	RIGHT	LEFT	
21621 M	492	2.11	0.0416	0.0129	0.65	3.55	1.84	0.92	1.12	0.24	3.38	a	a	21.40	
21623 M	529	2.04	0.0532	0.0118	0.67	3.32	2.28	1.02	1.36	0.31	3.15	1.54	1.54	18.98	
21625 M	525	2.22	0.0559	0.0152	0.71	3.99	2.05	1.04	1.36	0.24	3.53	1.73	1.79	21.46	
21630 M	600	2.32	0.0569	0.0150	1.05	4.58	1.72	1.02	1.55	0.35	3.93	1.98	1.95	21.34	
21636 M	459	2.17	0.0411	0.0133	0.82	3.66	1.91	0.79	1.40	0.34	3.88	1.96	1.92	16.68	
21638 M	467	2.10	0.0636	0.0138	0.84	4.00	2.06	0.91	1.46	0.40	4.08	2.05	2.05	17.26	
21639 M	519	2.22	0.0555	0.0109	0.76	4.30	1.68	0.88	1.30	0.29	3.79	1.90	1.91	21.33	
21640 M	474	2.16	0.0490	0.0111	0.79	4.07	1.73	1.27	1.44	0.39	3.58	1.81	1.80	18.92	
21646 M	540	2.23	0.0606	0.0123	0.76	4.05	1.91	1.04	1.30	0.27	3.45	1.75	1.72	18.59	
21647 M	561	2.31	0.0647	0.0141	0.82	4.20	2.67	0.84	1.27	0.31	3.14	1.56	1.60	22.79	
21649 M	520	2.18	0.0539	0.0125	0.85	3.86	1.20	1.35	1.25	0.31	3.04	1.52	1.52	20.21	
21652 M	497	2.17	0.0546	0.0109	0.76	3.71	1.92	0.72	1.39	0.32	3.88	1.94	1.94	15.70	
21656 M	594	2.40	0.0785	0.0163	1.00	4.39	2.31	1.08	1.43	0.30	3.74	1.83	1.90	21.97	
21660 M	555	2.30	0.0658	0.0119	1.06	4.51	2.61	1.18	1.29	0.29	3.34	1.65	1.70	20.82	
21665 M	544	2.11	0.0538	0.0128	0.82	3.65	2.85	1.05	1.45	0.33	3.66	1.87	1.78	18.15	
21673 M	544	2.19	0.0579	0.0133	0.84	3.80	2.58	1.11	1.44	0.31	3.69	1.90	1.80	18.94	
21686 M	571	2.05	0.0468	0.0121	0.86	4.25	1.94	0.93	1.24	0.32	3.10	1.75	1.53	20.17	
21688 M	628	2.27	0.0578	0.0127	0.89	4.38	1.57	0.98	1.31	0.28	3.85	1.88	1.95	23.07	
21695 M	500	2.13	0.0562	0.0125	0.82	3.83	2.10	0.83	1.40	0.34	3.39	1.67	1.70	17.53	
21703 M	595	2.17	0.0499	0.0165	0.82	4.72	1.77	1.34	1.42	0.34	3.75	1.87	1.87	20.06	
21709 M	594	2.37	0.0573	0.0152	0.96	4.90	1.90	1.12	1.42	0.40	3.29	1.65	1.65	21.80	
21719 M	611	2.26	0.0670	0.0156	0.99	4.52	2.48	0.80	1.36	0.32	3.68	1.80	1.85	21.74	
21721 M	520	2.03	0.0522	0.0102	0.95	3.51	2.18	0.96	1.37	0.30	3.40	1.69	1.70	15.78	
21723 M	502	1.91	0.0624	0.0142	0.77	3.93	2.43	1.02	1.24	0.32	3.03	1.48	1.54	20.81	
21729 M	526	2.11	0.0533	0.0116	0.93	3.94	1.73	1.17	1.22	0.28	3.14	1.60	1.53	19.54	
21738 M	583	2.89	0.0778	0.0121	0.69	4.22	2.19	0.50	1.43	0.34	3.35	1.65	1.65	20.64	
21739 M	532	2.22	0.0680	0.0131	0.80	4.21	1.70	1.23	1.44	0.38	3.48	1.75	1.73	18.41	
21761 M	502	2.13	0.0552	0.0118	0.63	4.06	2.05	0.60	1.38	0.36	3.66	1.83	1.81	16.75	
MEAN	539	2.21	0.0575	0.0131	0.83	4.08	2.05	0.99	1.36	0.32	3.51	1.76	1.76	19.67	
S.D.	45.3	0.172	0.00887	0.00168	0.115	0.383	0.377	0.204	0.093	0.042	0.296	0.152	0.153	2.080	
N	28	28	28	28	28	28	28	28	28	28	28	27	27	28	

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a UNABLE TO IDENTIFY LEFT TESTIS FROM RIGHT TESTIS DUE TO TECHNICAL ERROR.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	EPIDIDYMS	TESTES		LIVER
											LEFT	RIGHT	
21611 M	546	2.07	0.0519	0.0163	0.78	4.41	2.44	0.87	1.34	0.30	3.51	1.73	19.77
21612 M	567	2.12	0.0662	0.0129	0.92	4.55	1.96	0.71	1.22	0.25	3.46	1.78	20.91
21617 M	550	2.30	0.0664	0.0137	0.87	4.19	2.38	1.15	1.52	0.37	3.81	1.92	20.06
21618 M	568	2.18	0.0685	0.0127	0.93	4.42	1.68	1.03	1.39	0.32	3.25	1.61	19.59
21620 M	540	2.10	0.0551	0.0118	0.86	3.82	1.82	0.84	1.25	0.28	3.30	1.63	17.28
21631 M	589	2.19	0.0608	0.0159	0.84	4.05	2.57	1.24	1.49	0.39	3.62	1.83	23.90
21633 M	491	2.20	0.0570	0.0139	0.90	3.36	2.43	0.44	1.29	0.28	3.86	1.89	18.00
21641 M	527	2.13	0.0530	0.0123	0.77	4.26	2.14	1.40	1.34	0.30	3.55	1.77	18.90
21644 M	485	2.17	0.0565	0.0113	0.72	3.95	1.19	1.22	1.29	0.30	3.39	1.66	17.79
21664 M	487	2.25	0.0528	0.0118	0.82	3.78	1.77	0.70	0.66	0.12	1.26	0.66	0.57
21668 M	531	2.18	0.0620	0.0143	0.75	4.16	2.13	1.33	1.32	0.31	3.24	1.61	17.99
21679 M	518	2.33	0.0624	0.0114	0.79	3.64	1.91	0.97	1.24	0.29	3.16	1.52	18.16
21681 M	503	2.19	0.0583	0.0136	0.60	3.92	2.18	1.24	1.38	0.29	3.36	1.63	19.48
21685 M	519	2.18	0.0696	0.0112	0.51	3.37	2.44	1.19	1.21	0.25	3.00	1.49	16.86
21689 M	628	2.13	0.0663	0.0142	1.06	4.14	1.97	1.05	1.30	0.32	3.56	1.75	23.46
21690 M	544	2.13	0.0522	0.0130	0.76	4.09	2.07	1.21	1.39	0.33	3.74	1.85	17.20
21705 M	434	2.01	0.0612	0.0092	0.72	3.49	2.14	1.19	1.29	0.33	3.10	1.54	16.49
21713 M	520	2.11	0.0562	0.0150	0.84	4.53	1.82	1.36	1.46	0.33	4.02	1.97	17.92
21714 M	552	2.16	0.0694	0.0128	0.89	4.45	2.86	0.85	1.31	0.29	3.15	1.58	20.22
21717 M	487	2.16	0.0489	0.0117	0.70	4.00	1.93	1.05	1.46	0.35	4.06	2.02	15.29
21735 M	467	2.10	0.0556	0.0098	0.79	3.85	1.97	1.15	1.29	0.31	3.48	1.76	18.49
21736 M	546	1.99	0.0583	0.0118	0.82	4.25	3.13	0.84	1.32	0.34	3.51	1.76	20.45
21737 M	579	2.06	0.0540	0.0130	0.90	4.06	2.69	1.22	1.47	0.32	4.17	2.06	19.86
21741 M	511	2.20	0.0556	0.0136	0.88	4.03	2.34	0.81	1.40	0.32	3.25	1.62	16.21
21748 M	589	2.24	0.0628	0.0140	0.95	4.37	2.15	1.09	1.41	0.34	3.75	1.91	21.72
21749 M	564	2.23	0.0738	0.0157	0.81	4.29	2.40	1.30	1.52	0.41	3.91	1.93	19.67
21757 M	505	2.13	0.0792	0.0119	1.03	3.42	1.80	0.94	1.30	0.30	3.05	1.52	15.37
MEAN	531	2.16	0.0605	0.0129	0.82	4.03	2.16	1.05	1.33	0.31	3.43	1.70	18.75
S.D.	42.6	0.078	0.00743	0.00173	0.118	0.351	0.400	0.234	0.161	0.053	0.539	0.264	2.217
N	27	27	27	27	27	27	27	27	27	27	27	27	27

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES		LIVER
										YMS	YMS	LEFT	RIGHT	
21613 M	644	2.22	0.0627	0.0135	0.96	4.29	2.08	0.76	1.44	0.30	3.67	1.77	1.88	22.93
21624 M	495	2.16	0.0605	0.0139	0.76	4.07	1.48	0.79	1.27	0.33	3.60	1.80	1.79	18.62
21632 M	541	2.24	0.0653	0.0141	0.86	4.10	2.26	0.98	1.43	0.31	3.45	1.72	1.73	20.43
21650 M	514	2.34	0.0527	0.0137	0.72	4.04	2.10	1.32	1.40	0.37	3.59	1.76	1.80	15.66
21658 M	499	2.12	0.0497	0.0138	0.72	3.31	2.53	1.14	1.41	0.33	3.51	1.71	1.81	17.27
21659 M	547	2.09	0.0541	0.0133	0.82	3.69	1.57	0.90	1.40	0.38	3.52	1.79	1.76	18.40
21662 M	469	2.24	0.0358	0.0128	0.81	3.83	0.77	1.09	1.35	0.32	3.64	1.80	1.80	16.12
21663 M	515	2.15	0.0549	0.0127	0.98	3.82	1.52	1.05	1.12	0.29	2.97	1.46	1.50	18.02
21669 M	594	2.22	0.0564	0.0139	1.01	4.92	2.25	1.34	1.32	0.30	3.40	1.69	1.72	23.42
21671 M	605	2.45	0.0522	0.0124	1.02	4.94	2.36	1.14	1.39	0.35	3.62	1.81	1.82	23.94
21682 M	602	2.12	0.0536	0.0141	0.86	4.01	1.80	1.01	1.23	0.30	2.94	1.49	1.44	22.28
21691 M	547	2.19	0.0578	0.0137	0.85	4.09	2.47	0.67	1.27	0.29	3.96	1.94	2.00	20.02
21696 M	604	2.19	0.0606	0.0116	0.84	4.76	1.69	1.20	1.36	0.27	3.59	1.78	1.79	25.73
21698 M	599	2.11	0.0603	0.0146	0.77	4.51	1.87	1.23	1.25	0.29	3.24	1.59	1.63	20.96
21699 M	526	2.11	0.0608	0.0128	0.85	4.04	3.30	1.09	1.55	0.41	4.05	2.07	1.95	18.13
21701 M	525	2.33	0.0682	0.0133	1.00	4.25	1.42	1.02	1.37	0.33	3.47	1.68	1.79	18.41
21706 M	548	2.03	0.0601	0.0140	0.81	4.29	2.30	0.98	1.36	0.32	3.84	1.86	1.97	20.58
21708 M	548	2.19	0.0488	0.0134	0.86	5.39	1.95	0.89	1.36	0.33	3.72	1.88	1.83	18.43
21718 M	573	2.08	0.0494	0.0131	0.76	3.79	2.39	1.30	1.28	0.34	2.90	1.44	1.46	17.82
21722 M	456	2.12	0.0556	0.0124	0.75	3.41	2.00	1.19	1.34	0.32	3.28	1.61	1.65	15.20
21732 M	550	2.01	0.0780	0.0159	0.83	4.41	2.16	0.93	1.06	0.26	2.81	1.43	1.39	20.39
21734 M	461	2.18	0.0616	0.0114	0.64	3.96	1.95	1.01	1.41	0.29	4.00	1.97	2.02	13.71
21744 M	622	2.18	0.0680	0.0149	0.91	4.68	2.39	1.30	1.31	0.29	3.14	1.54	1.57	21.66
21751 M	528	2.23	0.0598	0.0132	0.77	4.02	1.83	1.10	1.27	0.32	3.05	1.54	1.49	19.98
21755 M	539	1.99	0.0540	0.0138	0.70	3.89	2.06	1.02	1.48	0.37	3.39	1.67	1.70	19.13
21762 M	547	2.28	0.0572	0.0143	0.89	4.17	1.73	0.91	1.45	0.34	3.59	1.79	1.80	18.25
21763 M	459	1.89	0.0701	0.0110	0.65	3.37	1.75	1.10	1.07	0.26	2.82	1.44	1.39	16.11
21764 M	504	2.33	0.0566	0.0124	0.83	4.28	1.72	0.88	1.14	0.27	3.22	1.61	1.60	15.42
MEAN	541	2.17	0.0580	0.0134	0.83	4.15	1.99	1.05	1.32	0.32	3.43	1.70	1.72	19.18
S.D.	50.7	0.118	0.00799	0.00106	0.103	0.482	0.464	0.172	0.120	0.037	0.351	0.170	0.182	2.886
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX Q  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	EPIDIDYMIDES	YMS	TESTES		LIVER
												LEFT	RIGHT	
21616 M	638	2.18	0.0688	0.0163	0.92	4.61	2.00	0.89	1.41	0.31	3.55	1.75	1.80	22.25
21619 M	565	2.22	0.0665	0.0132	0.88	4.23	2.35	0.97	1.35	0.34	3.61	1.81	1.79	18.02
21634 M	577	2.23	0.0571	0.0154	0.76	4.07	2.71	1.14	1.46	0.33	3.48	1.77	1.77	18.27
21635 M	533	2.02	0.0461	0.0109	0.76	3.57	1.97	0.84	1.28	0.27	3.71	1.83	1.84	23.51
21637 M	554	2.16	0.0606	0.0125	0.83	4.27	2.04	0.49	1.04	0.16	2.99	1.16	1.82	21.73
21642 M	441	2.36	0.0532	0.0101	0.93	3.45	1.99	1.19	1.42	0.33	3.85	1.92	1.92	12.94
21643 M	568	2.26	0.0616	0.0158	0.81	4.40	2.31	1.26	1.41	0.31	3.56	1.73	1.81	17.68
21645 M	440	2.06	0.0792	0.0113	0.42	3.55	1.50	0.77	1.26	0.29	3.18	1.60	1.58	17.50
21651 M	472	2.10	0.0656	0.0123	0.72	3.55	1.86	1.45	0.92	0.29	2.53	1.65	0.87	14.24
21666 M	601	2.09	0.0699	0.0130	1.03	4.52	2.69	0.91	1.24	0.36	3.31	1.66	1.63	24.80
21666 M	552	2.13	0.0727	0.0146	0.94	4.15	1.62	1.33	1.40	0.37	3.47	1.72	1.72	18.73
21672 M	509	2.11	0.0627	0.0124	0.94	3.63	2.37	1.16	1.29	0.32	3.15	1.60	1.55	16.84
21674 M	705	2.18	0.0607	0.0183	1.14	4.92	1.96	1.28	1.43	0.33	3.66	1.82	1.81	26.34
21677 M	524	2.21	0.0637	0.0145	0.88	4.08	2.33	1.34	1.34	0.33	3.43	1.75	1.69	17.36
21680 M	572	2.36	0.0541	0.0159	1.12	4.34	1.66	1.74	1.46	0.36	3.42	1.74	1.67	18.59
21684 M	498	2.19	0.0545	0.0099	0.74	3.69	2.08	0.79	1.44	0.33	3.86	1.92	1.94	21.51
21687 M	508	2.11	0.0602	0.0126	0.91	3.93	1.95	0.96	0.91	0.11	2.45	0.59	1.81	17.14
21694 M	580	2.25	0.0672	0.0148	0.81	4.78	1.88	1.28	1.42	0.34	3.53	1.68	1.83	21.81
21702 M	513	2.21	0.0396	0.0159	0.74	3.48	2.02	1.08	1.45	0.37	3.58	1.83	1.72	15.98
21704 M	481	2.10	0.0588	0.0133	0.76	3.21	2.50	1.23	1.37	0.30	3.78	1.86	1.91	13.73
21711 M	543	2.29	0.0551	0.0121	0.83	4.03	1.87	0.62	1.35	0.32	3.92	1.95	1.94	18.53
21725 M	564	2.12	0.0705	0.0136	0.87	4.10	1.60	0.84	1.29	0.24	3.25	1.60	1.62	20.67
21728 M	522	2.30	0.0416	0.0154	0.92	4.23	1.64	1.33	1.46	0.33	3.91	1.97	1.93	19.14
21743 M	545	2.23	0.0654	0.0130	0.68	3.70	1.91	1.09	1.14	0.25	2.56	1.24	1.31	15.07
21750 M	574	2.07	0.0599	0.0130	0.91	3.99	2.00	0.76	1.15	0.27	3.13	1.57	1.57	18.67
21759 M	502	2.22	0.0489	0.0102	0.54	3.92	1.36	1.36	1.27	0.34	3.21	1.56	1.64	17.35
21765 M	477	2.14	0.0598	0.0125	0.67	3.75	1.70	0.98	1.36	0.35	3.48	1.76	1.74	15.15
MEAN	539	2.18	0.0601	0.0134	0.82	4.01	2.00	1.08	1.31	0.31	3.39	1.67	1.71	18.65
S.D.	57.7	0.088	0.00922	0.00209	0.156	0.429	0.343	0.281	0.156	0.060	0.402	0.285	0.222	3.315
N	27	27	27	27	27	27	27	27	27	27	27	27	27	27

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX Q  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES	TESTES		LIVER	
											LEFT	RIGHT		
21614 M	553	2.16	0.0733	0.0141	0.91	4.08	1.56	0.94	1.35	0.35	3.55	1.76	1.80	18.00
21627 M	493	2.16	0.0483	0.0145	0.81	3.89	1.63	0.65	1.10	0.27	2.88	1.77	1.11	18.01
21628 M	441	2.05	0.0773	0.0134	0.79	3.25	2.18	0.92	1.49	0.35	3.43	1.78	1.65	14.48
21629 M	598	2.12	0.0743	0.0116	0.86	3.91	2.13	1.00	1.28	0.30	3.01	1.49	1.53	19.67
21648 M	484	2.19	0.0562	0.0122	0.81	3.87	2.49	1.09	1.47	0.37	3.66	1.81	1.85	16.31
21667 M	548	2.21	0.0678	0.0133	0.97	4.03	2.51	0.57	1.40	0.33	3.08	1.53	1.55	17.52
21670 M	564	2.25	0.0587	0.0145	0.86	4.00	2.55	1.54	1.71	0.41	4.12	2.09	2.04	16.72
21676 M	609	2.26	0.0644	0.0148	0.91	4.86	2.49	0.73	1.33	0.31	3.56	1.75	1.79	24.40
21683 M	548	2.23	0.0547	0.0122	0.85	3.78	2.30	1.13	1.40	0.35	3.18	1.54	1.62	19.10
21692 M	537	2.17	0.0762	0.0143	0.81	3.87	2.63	1.18	1.52	0.32	3.79	1.87	1.91	16.83
21693 M	558	2.12	0.0571	0.0131	0.92	3.50	2.19	0.62	1.30	0.31	3.59	1.79	1.76	21.26
21707 M	503	2.27	0.0697	0.0157	0.97	3.92	1.43	1.31	1.35	0.31	3.48	1.74	1.74	17.15
21710 M	547	2.31	0.0676	0.0135	0.95	4.28	2.28	1.15	1.40	0.26	3.50	1.73	1.74	20.01
21715 M	433	2.12	0.0600	0.0134	0.71	3.38	1.09	1.16	1.43	0.32	3.64	1.78	1.85	13.91
21716 M	458	2.14	0.0676	0.0123	0.77	3.18	1.90	1.22	1.38	0.33	3.27	1.63	1.61	13.44
21720 M	516	2.15	0.0554	0.0129	0.77	3.66	2.32	1.20	1.51	0.38	3.71	1.84	1.85	16.38
21724 M	514	2.19	0.0612	0.0135	0.77	3.37	1.50	0.62	1.39	0.34	3.81	1.92	1.89	17.67
21727 M	534	2.05	0.0509	0.0109	0.86	4.37	2.04	1.09	1.37	0.33	3.20	1.62	1.58	17.39
21730 M	576	2.19	0.0588	0.0111	0.80	4.22	1.42	1.29	1.43	0.35	3.60	1.80	1.82	20.72
21740 M	504	2.03	0.0563	0.0120	0.72	3.71	2.25	0.86	1.36	0.37	3.34	1.65	1.66	15.25
21740 M	503	2.25	0.0558	0.0120	0.80	3.75	1.51	0.91	1.30	0.31	3.31	1.64	1.66	14.69
21745 M	519	2.22	0.0616	0.0131	0.88	3.82	1.24	1.14	1.36	0.35	3.37	1.69	1.69	15.97
21746 M	484	2.21	0.0530	0.0115	0.79	3.54	1.99	0.79	1.32	0.33	3.42	1.65	1.74	16.46
21752 M	522	2.21	0.0620	0.0103	0.82	3.67	2.24	1.01	1.34	0.25	3.56	1.80	1.76	16.96
21754 M	550	2.22	0.0675	0.0109	1.07	4.22	1.77	1.07	1.19	0.29	3.00	1.47	1.54	18.73
21756 M	488	2.00	0.0667	0.0133	0.88	3.86	1.91	1.01	1.36	0.33	3.50	1.75	1.75	15.73
21758 M	551	2.26	0.0570	0.0117	0.84	4.33	1.98	0.94	1.18	0.27	3.27	1.66	1.59	17.67
21760 M	504	2.06	0.0506	0.0128	0.78	3.79	1.38	1.23	1.38	0.37	3.58	1.75	1.80	16.21
MEAN	523	2.17	0.0618	0.0128	0.85	3.86	1.96	1.01	1.37	0.33	3.44	1.72	1.71	17.38
S.D.	42.7	0.080	0.00799	0.00133	0.082	0.369	0.440	0.236	0.115	0.038	0.275	0.133	0.171	2.366
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	KIDNEYS	UTERUS	LIVER				
306 F	353	2.05	0.0655	0.1225	0.0132	0.70	2.46	0.33	15.34			
311 F	309	2.05	0.0757	0.1086	0.0169	0.53	2.60	0.49	13.46			
317 F	326	2.02	0.0804	0.1350	0.0140	0.66	2.77	0.55	15.48			
321 F	374	1.97	0.0875	0.0898	0.0139	0.54	2.79	0.51	17.26			
323 F	336	1.98	0.0755	0.0927	0.0175	0.67	2.35	0.47	14.25			
345 F	400	1.94	0.0705	0.1037	0.0237	0.75	2.72	0.45	15.30			
348 F	349	2.21	0.0754	0.0991	0.0216	0.65	2.53	0.51	16.08			
353 F	319	1.96	0.0768	0.1001	0.0159	0.61	2.46	0.58	12.70			
355 F	323	1.94	0.0692	0.0793	0.0154	0.56	2.39	0.51	14.58			
371 F	324	2.05	0.0627	0.0858	0.0136	0.60	2.70	0.40	12.07			
380 F	331	2.15	0.0816	0.1027	0.0173	0.63	2.44	0.57	12.82			
384 F	349	2.06	0.0870	0.1120	0.0166	0.56	2.47	0.35	15.76			
388 F	324	2.06	0.0727	0.0943	0.0132	0.52	2.23	0.37	12.25			
390 F	335	2.10	0.0787	0.0841	0.0167	0.44	2.42	0.41	15.08			
400 F	309	1.96	0.0597	0.1062	0.0181	0.56	2.60	0.48	12.38			
403 F	344	2.06	0.0690	0.0951	0.0170	0.59	2.51	0.45	15.69			
408 F	287	1.95	0.0753	0.0897	0.0141	0.44	2.28	0.47	12.02			
420 F	327	2.16	0.0586	0.1077	0.0161	0.71	2.27	0.47	11.86			
425 F	325	1.87	0.0700	0.1233	0.0154	0.50	2.30	0.29	12.73			
349	349	1.98	0.0702	0.0842	0.0181	0.62	2.97	0.27	17.02			
427 F	386	2.08	0.0922	0.1080	0.0116	0.61	3.00	0.36	17.24			
449 F	366	2.18	0.0796	0.1189	0.0200	0.66	2.80	0.36	16.33			
450 F	342	1.99	0.0699	0.1079	0.0153	0.59	2.57	0.34	15.94			
628 F	360	1.96	0.0896	0.0868	0.0169	0.58	2.95	0.41	17.11			

MEAN	339	2.03	0.0747	0.1016	0.0163	0.59	2.57	0.43	14.61
S.D.	25.6	0.086	0.00893	0.01424	0.00275	0.078	0.228	0.086	1.870
N	24	24	24	24	24	24	24	24	24

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

APPENDIX Q

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	GLAND	OVARIES	TARY				
310 F	306	1.74	0.0680	0.1089	0.0122	0.51	2.39	0.28	13.10			
312 F	290	1.88	0.0706	0.0768	0.0137	0.54	2.34	0.36	11.43			
313 F	306	2.01	0.0758	0.0693	0.0113	0.59	2.42	0.30	14.22			
314 F	345	1.82	0.0851	0.1022	0.0110	0.60	2.52	0.32	15.62			
324 F	345	1.99	0.0766	0.1138	0.0172	0.49	2.85	0.35	16.21			
325 F	320	2.00	0.0926	0.1000	0.0163	0.59	2.41	0.30	14.56			
329 F	358	1.99	0.0721	0.0969	0.0159	0.72	2.72	0.31	15.25			
354 F	378	2.22	0.0824	0.1305	0.0183	0.65	3.06	0.56	17.40			
363 F	352	2.01	0.0668	0.1004	0.0177	0.53	2.70	0.52	15.92			
377 F	374	2.01	0.0883	0.0865	0.0168	0.74	2.81	0.51	17.65			
397 F	335	2.02	0.0907	0.0982	0.0164	0.64	2.81	0.66	15.80			
406 F	386	2.09	0.0666	0.0761	0.0183	0.57	2.87	0.52	16.73			
409 F	339	2.02	0.0826	0.0941	0.0162	0.63	2.54	0.44	15.23			
411 F	333	1.92	0.0747	0.1102	0.0144	0.56	2.46	0.41	13.41			
413 F	370	2.06	0.0958	0.1054	0.0188	0.79	2.77	0.49	15.93			
419 F	326	1.91	0.0797	0.0965	0.0146	0.62	2.66	0.44	15.51			
422 F	338	1.99	0.0770	0.0781	0.0135	0.65	2.67	0.36	15.49			
423 F	286	2.05	0.0650	0.0999	0.0137	0.40	2.25	0.28	12.21			
428 F	346	1.98	0.0784	0.0905	0.0178	0.64	2.56	0.34	16.59			
429 F	372	2.05	0.0946	0.0882	0.0192	0.68	3.02	0.47	18.07			
430 F	337	1.97	0.0663	0.1001	0.0166	0.52	2.67	0.44	16.36			
431 F	344	2.03	0.0949	0.1125	0.0159	0.63	2.97	0.35	15.32			
440 F	324	1.90	0.0815	0.1131	0.0166	0.56	2.65	0.63	16.95			
447 F	355	2.06	0.0747	0.1150	0.0127	0.69	3.01	0.34	18.50			
629 F	340	1.95	0.0770	0.0823	0.0135	0.68	2.47	0.47	15.65			

MEAN	340	1.99	0.0791	0.0977	0.0155	0.61	2.66	0.42	15.56		
S.D.	25.9	0.093	0.00961	0.01450	0.00235	0.086	0.227	0.108	1.714		
N	25	25	25	25	25	25	25	25	25		

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

APPENDIX Q

ANIMAL NO.	FBW(G)	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY	UTERUS	LIVER				
304 F	334	1.93	0.0791	0.1042	0.0153	0.55	2.74	0.39	14.94		
307 F	327	1.89	0.0788	0.1181	0.0204	0.59	2.35	0.34	16.02		
332 F	374	2.00	0.0867	0.1099	0.0165	0.77	2.69	0.40	14.69		
338 F	302	1.90	0.0831	0.1106	0.0145	0.60	2.21	0.34	14.05		
340 F	349	1.93	0.0647	0.0841	0.0124	0.50	2.29	0.27	16.23		
342 F	331	1.80	0.0675	0.0801	0.0136	0.54	2.34	0.41	15.54		
343 F	337	1.95	0.0813	0.0766	0.0148	0.68	2.61	0.40	14.82		
351 F	373	1.92	0.0763	0.0758	0.0178	0.55	2.74	0.42	17.28		
356 F	315	1.93	0.0815	0.0956	0.0134	0.65	2.19	0.50	13.59		
357 F	308	1.95	0.0703	0.0823	0.0164	0.52	2.36	0.32	11.66		
359 F	376	2.00	0.0982	0.1030	0.0222	0.68	3.00	0.68	18.48		
367 F	317	1.89	0.0717	0.1190	0.0154	0.57	2.57	0.45	14.78		
368 F	313	1.91	0.0807	0.0972	0.0146	0.55	2.38	0.46	13.96		
372 F	354	2.18	0.0902	0.1156	0.0192	0.74	2.70	0.51	16.33		
373 F	351	2.07	0.0896	0.1030	0.0168	0.65	3.09	0.47	15.81		
382 F	323	1.84	0.0792	0.1110	0.0140	0.52	2.56	0.39	15.14		
385 F	329	1.93	0.0858	0.1036	0.0138	0.54	2.43	0.25	14.12		
404 F	336	1.92	0.0710	0.0881	0.0136	1.12	2.71	0.39	16.81		
418 F	331	1.96	0.0610	0.0994	0.0149	0.59	2.50	0.35	15.86		
421 F	337	1.93	0.0849	0.0785	0.0157	0.55	2.72	0.42	15.83		
432 F	339	1.95	0.0875	0.0837	0.0134	0.51	2.54	0.37	15.89		
439 F	352	1.97	0.0964	0.1178	0.0135	0.64	2.77	0.35	15.86		
444 F	315	1.90	0.0816	0.1112	0.0139	0.54	2.53	0.46	13.79		
445 F	321	1.97	0.0811	0.0931	0.0169	0.67	2.56	0.43	14.31		
625 F	293	1.85	0.0674	0.1097	0.0132	0.50	2.18	0.30	12.83		

MEAN	333	1.94	0.0798	0.0988	0.0154	0.61	2.55	0.40	15.14
S.D.	21.8	0.074	0.00945	0.01422	0.00240	0.129	0.236	0.088	1.458
N	25	25	25	25	25	25	25	25	25

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)  
APPENDIX Q

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY								
303 F	334	1.98	0.0702	0.0888	0.0161	0.65	2.33	0.36	13.69				
316 F	354	2.02	0.0590	0.0991	0.0160	0.69	2.63	0.44	15.26				
326 F	330	1.95	0.0660	0.0774	0.0187	0.46	2.68	0.40	14.57				
328 F	277	2.09	0.0892	0.0665	0.0164	0.46	2.57	0.30	12.37				
330 F	301	1.96	0.0601	0.0909	0.0173	0.51	2.50	0.22	11.87				
344 F	333	2.12	0.0894	0.1308	0.0166	0.55	2.69	0.45	14.19				
346 F	351	1.98	0.0887	0.1172	0.0141	0.61	2.61	0.35	15.81				
347 F	359	1.99	0.0710	0.1005	0.0174	0.60	2.62	0.41	17.00				
350 F	320	1.83	0.0707	0.0869	0.0144	0.57	2.27	0.38	14.12				
360 F	333	1.82	0.0645	0.0884	0.0170	0.49	2.35	0.53	15.67				
361 F	403	2.17	0.0837	0.0961	0.0193	0.70	3.34	0.37	18.43				
365 F	348	2.02	0.0837	0.1129	0.0164	0.76	3.11	0.51	16.64				
374 F	337	1.95	0.0809	0.0838	0.0188	0.56	2.70	0.36	16.86				
375 F	381	1.95	0.0991	0.1317	0.0155	0.81	2.77	0.37	17.44				
381 F	320	1.91	0.0860	0.0960	0.0145	0.56	2.41	0.37	14.32				
389 F	290	1.90	0.0690	0.0928	0.0154	0.50	2.27	0.44	13.99				
393 F	321	1.99	0.0718	0.1188	0.0132	0.60	2.42	0.33	14.73				
398 F	290	2.01	0.0856	0.1025	0.0122	0.64	2.21	0.41	12.63				
402 F	350	1.97	0.0725	0.1112	0.0117	0.59	2.56	0.26	14.22				
410 F	318	1.93	0.0870	0.1101	0.0121	0.59	2.40	0.39	13.87				
414 F	358	2.00	0.0877	0.1268	0.0154	0.73	2.59	0.36	15.86				
416 F	353	2.02	0.0951	0.1091	0.0169	0.66	2.58	0.36	17.59				
417 F	367	2.03	0.0866	0.0887	0.0181	0.58	2.97	0.60	18.78				
436 F	365	2.08	0.0688	0.0962	0.0140	0.64	2.54	0.35	14.89				
443 F	298	1.96	0.0683	0.0853	0.0139	0.67	2.12	0.44	13.29				
451 F	391	2.21	0.0881	0.1333	0.0197	0.67	3.24	0.36	17.99				
MEAN	338	1.99	0.0786	0.1016	0.0158	0.61	2.60	0.39	15.23				
S.D.	31.6	0.089	0.01122	0.01755	0.00222	0.089	0.301	0.079	1.901				
N	26	26	26	26	26	26	26	26	26				

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX Q  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY								
308 F	371	2.17	0.0829	0.1096	0.0172	0.69	2.80	0.43	16.08				
318 F	327	1.98	0.0779	0.1019	0.0148	0.54	2.65	0.47	15.52				
319 F	333	2.06	0.0799	0.0632	0.0141	0.54	2.75	0.40	15.90				
327 F	347	2.02	0.0826	0.1022	0.0142	0.77	2.64	0.37	15.34				
331 F	342	1.99	0.0848	0.0865	0.0137	0.63	2.41	0.53	12.93				
333 F	314	2.00	0.0648	0.1014	0.0150	0.53	2.46	0.39	15.78				
336 F	347	2.03	0.0797	0.0976	0.0209	0.73	2.74	0.40	19.05				
337 F	327	2.02	0.0855	0.0949	0.0141	0.58	2.45	0.34	13.67				
352 F	340	1.91	0.0661	0.0929	0.0166	0.68	2.63	0.40	14.73				
358 F	412	2.17	0.0953	0.1004	0.0185	0.72	3.19	0.42	20.42				
362 F	337	2.06	0.0705	0.1037	0.0146	0.68	2.63	0.30	12.97				
364 F	326	1.91	0.0683	0.1024	0.0144	0.60	2.38	0.33	15.02				
378 F	374	2.04	0.0869	0.0993	0.0157	0.71	2.87	0.51	17.34				
394 F	324	2.01	0.0750	0.1153	0.0139	0.61	2.95	0.39	15.60				
395 F	320	1.94	0.0674	0.0787	0.0159	0.45	2.38	0.39	14.42				
396 F	364	2.07	0.0970	0.1127	0.0138	0.65	2.85	0.42	16.42				
399 F	364	2.05	0.0828	0.0927	0.0147	0.59	2.92	0.44	17.24				
405 F	315	1.99	0.0714	0.1031	0.0180	0.54	2.81	0.42	14.14				
415 F	340	1.97	0.0742	0.1131	0.0179	0.52	2.44	0.30	14.80				
434 F	368	2.07	0.0849	0.1154	0.0193	0.68	2.66	0.34	17.30				
435 F	359	2.02	0.0912	0.0958	0.0192	0.62	2.69	0.34	15.02				
437 F	377	2.07	0.0787	0.1037	0.0143	0.68	2.46	0.40	14.47				
438 F	316	1.97	0.0822	0.1003	0.0145	0.62	2.60	0.53	13.37				
441 F	313	1.85	0.0744	0.1139	0.0148	0.57	2.81	0.40	16.59				
448 F	389	1.89	0.0826	0.1048	0.0253	0.73	3.00	0.51	16.77				
626 F	343	2.05	0.0628	0.0956	0.0194	0.58	2.46	0.51	16.35				
627 F	355	2.06	0.0825	0.0955	0.0182	0.62	2.82	0.42	17.18				
MEAN	346	2.01	0.0790	0.0999	0.0164	0.62	2.68	0.41	15.72				
S.D.	25.2	0.074	0.00891	0.01135	0.00277	0.078	0.211	0.066	1.748				
N	27	27	27	27	27	27	27	27	27				

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI Study No. 3472.4

APPENDIX R

Individual F0 Organ Weight to Body Weight Data

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES		LIVER
										YMS	YMS	LEFT	RIGHT	
21621 M	492	0.429	0.008	0.003	0.132	0.722	0.374	0.187	0.228	0.049	0.687	a	0.291	4.350
21623 M	529	0.386	0.010	0.002	0.127	0.628	0.431	0.193	0.257	0.059	0.595	0.291	0.291	3.588
21625 M	525	0.423	0.011	0.003	0.135	0.760	0.390	0.198	0.259	0.046	0.672	0.330	0.341	4.088
21630 M	600	0.387	0.009	0.002	0.175	0.763	0.287	0.170	0.258	0.058	0.655	0.330	0.325	3.557
21636 M	459	0.473	0.009	0.003	0.179	0.797	0.416	0.172	0.305	0.074	0.845	0.427	0.418	3.634
21638 M	467	0.450	0.014	0.003	0.180	0.857	0.441	0.195	0.313	0.086	0.874	0.439	0.439	3.696
21639 M	519	0.428	0.011	0.002	0.146	0.829	0.324	0.170	0.250	0.056	0.730	0.366	0.368	4.110
21640 M	474	0.456	0.010	0.002	0.167	0.859	0.365	0.268	0.304	0.082	0.755	0.382	0.380	3.992
21646 M	540	0.413	0.011	0.002	0.141	0.750	0.354	0.193	0.241	0.050	0.639	0.324	0.319	3.443
21647 M	561	0.412	0.012	0.003	0.146	0.749	0.476	0.150	0.226	0.055	0.560	0.278	0.285	4.062
21649 M	520	0.419	0.010	0.002	0.163	0.742	0.231	0.260	0.240	0.060	0.585	0.292	0.292	3.887
21652 M	497	0.437	0.011	0.002	0.153	0.746	0.386	0.145	0.280	0.064	0.781	0.390	0.390	3.159
21656 M	594	0.404	0.013	0.003	0.168	0.739	0.389	0.182	0.241	0.051	0.630	0.308	0.320	3.699
21660 M	555	0.414	0.012	0.002	0.191	0.813	0.470	0.213	0.232	0.052	0.602	0.297	0.306	3.751
21665 M	544	0.388	0.010	0.002	0.151	0.671	0.524	0.204	0.267	0.061	0.673	0.344	0.327	3.336
21673 M	544	0.403	0.011	0.002	0.154	0.699	0.474	0.204	0.265	0.057	0.678	0.349	0.331	3.482
21686 M	571	0.359	0.008	0.002	0.151	0.744	0.340	0.163	0.217	0.056	0.543	0.306	0.268	3.532
21688 M	628	0.361	0.009	0.002	0.142	0.697	0.250	0.156	0.209	0.045	0.613	0.299	0.311	3.674
21695 M	500	0.426	0.011	0.002	0.164	0.766	0.420	0.166	0.280	0.068	0.678	0.334	0.340	3.506
21703 M	595	0.365	0.008	0.003	0.138	0.793	0.297	0.225	0.239	0.057	0.630	0.314	0.314	3.371
21709 M	594	0.399	0.010	0.003	0.162	0.825	0.320	0.189	0.239	0.067	0.554	0.278	0.278	3.670
21719 M	611	0.370	0.011	0.003	0.162	0.740	0.406	0.131	0.223	0.052	0.602	0.295	0.303	3.558
21721 M	520	0.390	0.010	0.002	0.183	0.675	0.419	0.185	0.263	0.058	0.654	0.325	0.327	3.035
21723 M	502	0.380	0.012	0.003	0.153	0.783	0.484	0.203	0.247	0.064	0.604	0.295	0.307	4.145
21729 M	526	0.401	0.010	0.002	0.177	0.749	0.329	0.222	0.232	0.053	0.597	0.304	0.291	3.715
21738 M	583	0.496	0.013	0.002	0.118	0.724	0.376	0.086	0.245	0.058	0.575	0.283	0.283	3.540
21739 M	532	0.417	0.013	0.002	0.150	0.791	0.320	0.231	0.271	0.071	0.654	0.329	0.325	3.461
21761 M	502	0.424	0.011	0.002	0.125	0.809	0.408	0.120	0.275	0.072	0.729	0.365	0.361	3.337
MEAN	539	0.411	0.011	0.002	0.155	0.758	0.382	0.185	0.254	0.060	0.657	0.329	0.327	3.656
S.D.	45.3	0.0327	0.0015	0.0003	0.0188	0.0552	0.0721	0.0393	0.0265	0.0101	0.0829	0.0428	0.0422	0.3084
N	28	28	28	28	28	28	28	28	28	28	28	27	27	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a UNABLE TO IDENTIFY LEFT TESTIS FROM RIGHT TESTIS DUE TO TECHNICAL ERROR.

APPENDIX R  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMI S		TESTES		LIVER
										YMS	YMS	LEFT	RIGHT	
21611 M	546	0.379	0.010	0.003	0.143	0.808	0.447	0.159	0.245	0.055	0.643	0.322	0.317	3.621
21612 M	567	0.374	0.012	0.002	0.162	0.802	0.346	0.125	0.215	0.044	0.610	0.314	0.293	3.688
21617 M	550	0.418	0.012	0.002	0.158	0.762	0.433	0.209	0.276	0.067	0.693	0.349	0.345	3.647
21618 M	568	0.384	0.012	0.002	0.164	0.778	0.296	0.181	0.245	0.056	0.572	0.283	0.287	3.449
21620 M	540	0.389	0.010	0.002	0.159	0.707	0.337	0.156	0.231	0.052	0.611	0.302	0.309	3.200
21631 M	589	0.372	0.010	0.003	0.143	0.688	0.436	0.211	0.253	0.066	0.615	0.311	0.306	4.058
21633 M	491	0.448	0.012	0.003	0.183	0.684	0.495	0.090	0.263	0.057	0.786	0.385	0.395	3.666
21641 M	527	0.404	0.010	0.002	0.146	0.808	0.406	0.266	0.254	0.057	0.674	0.336	0.332	3.586
21644 M	485	0.447	0.012	0.002	0.148	0.814	0.245	0.252	0.266	0.062	0.699	0.342	0.357	3.668
21664 M	487	0.462	0.011	0.002	0.168	0.776	0.363	0.144	0.136	0.025	0.259	0.136	0.117	3.413
21668 M	531	0.411	0.012	0.003	0.141	0.783	0.401	0.250	0.249	0.058	0.610	0.303	0.337	3.141
21679 M	518	0.450	0.012	0.002	0.153	0.703	0.369	0.187	0.239	0.056	0.610	0.293	0.319	3.506
21681 M	503	0.435	0.012	0.003	0.119	0.779	0.433	0.247	0.274	0.058	0.668	0.324	0.344	3.873
21685 M	519	0.420	0.013	0.002	0.098	0.649	0.470	0.229	0.233	0.048	0.578	0.287	0.289	3.249
21689 M	628	0.339	0.011	0.002	0.169	0.659	0.314	0.167	0.207	0.051	0.567	0.279	0.290	3.736
21690 M	544	0.392	0.010	0.002	0.140	0.752	0.381	0.222	0.256	0.061	0.688	0.340	0.347	3.162
21705 M	434	0.463	0.014	0.002	0.166	0.804	0.493	0.274	0.297	0.076	0.714	0.355	0.355	3.800
21713 M	520	0.406	0.011	0.003	0.162	0.871	0.350	0.262	0.281	0.063	0.773	0.379	0.390	3.446
21714 M	552	0.391	0.013	0.002	0.161	0.806	0.518	0.154	0.237	0.053	0.571	0.286	0.284	3.663
21717 M	487	0.444	0.010	0.002	0.144	0.821	0.396	0.216	0.300	0.072	0.834	0.415	0.413	3.140
21735 M	467	0.450	0.012	0.002	0.169	0.824	0.422	0.246	0.276	0.066	0.745	0.377	0.368	3.959
21736 M	546	0.364	0.011	0.002	0.150	0.778	0.573	0.154	0.242	0.062	0.643	0.322	0.319	3.745
21737 M	579	0.356	0.009	0.002	0.155	0.701	0.465	0.211	0.254	0.055	0.720	0.356	0.364	3.430
21741 M	511	0.431	0.011	0.003	0.172	0.789	0.458	0.159	0.274	0.063	0.636	0.317	0.319	3.172
21748 M	589	0.380	0.011	0.002	0.161	0.742	0.365	0.185	0.239	0.058	0.637	0.324	0.311	3.688
21749 M	564	0.395	0.013	0.003	0.144	0.761	0.426	0.230	0.270	0.073	0.693	0.342	0.355	3.488
21757 M	505	0.422	0.016	0.002	0.204	0.677	0.356	0.186	0.257	0.059	0.604	0.301	0.299	3.044
MEAN	531	0.408	0.011	0.002	0.155	0.760	0.407	0.199	0.251	0.058	0.646	0.322	0.324	3.527
S.D.	42.6	0.0343	0.0015	0.0003	0.0197	0.0577	0.0726	0.0474	0.0319	0.0100	0.1040	0.0504	0.0541	0.2706
N	27	27	27	27	27	27	27	27	27	27	27	27	27	27

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIUMS	LEFT CAUDA EPIDIDYMIUMS		TESTES		LIVER
										YMS	YMS	LEFT	RIGHT	
21613 M	644	0.345	0.010	0.002	0.149	0.666	0.323	0.118	0.224	0.047	0.570	0.275	0.292	3.561
21624 M	495	0.436	0.012	0.003	0.154	0.822	0.299	0.160	0.257	0.067	0.727	0.364	0.362	3.762
21632 M	541	0.414	0.012	0.003	0.159	0.758	0.418	0.181	0.264	0.057	0.638	0.318	0.320	3.776
21650 M	514	0.455	0.010	0.003	0.140	0.786	0.409	0.257	0.272	0.072	0.698	0.342	0.350	3.047
21658 M	499	0.425	0.010	0.003	0.144	0.663	0.507	0.228	0.283	0.066	0.703	0.343	0.363	3.461
21659 M	547	0.382	0.010	0.002	0.150	0.675	0.287	0.165	0.256	0.069	0.644	0.327	0.322	3.364
21662 M	469	0.478	0.008	0.003	0.173	0.817	0.164	0.232	0.288	0.068	0.776	0.384	0.384	3.437
21663 M	515	0.417	0.011	0.002	0.190	0.742	0.295	0.204	0.217	0.056	0.577	0.283	0.291	3.499
21669 M	594	0.374	0.009	0.002	0.170	0.828	0.379	0.226	0.222	0.051	0.572	0.285	0.290	3.943
21671 M	605	0.405	0.009	0.002	0.169	0.817	0.390	0.188	0.230	0.058	0.598	0.299	0.301	3.957
21682 M	602	0.352	0.009	0.002	0.143	0.666	0.299	0.168	0.204	0.050	0.488	0.248	0.239	3.701
21691 M	547	0.400	0.011	0.003	0.155	0.748	0.452	0.122	0.232	0.049	0.724	0.355	0.366	3.660
21696 M	604	0.363	0.010	0.002	0.139	0.788	0.280	0.199	0.225	0.048	0.594	0.295	0.296	4.260
21698 M	599	0.352	0.010	0.002	0.129	0.753	0.312	0.205	0.209	0.048	0.541	0.265	0.272	3.499
21699 M	526	0.401	0.012	0.002	0.162	0.768	0.627	0.207	0.295	0.078	0.770	0.394	0.371	3.447
21701 M	525	0.444	0.013	0.003	0.190	0.810	0.270	0.194	0.261	0.063	0.661	0.320	0.341	3.507
21706 M	548	0.370	0.011	0.003	0.148	0.783	0.420	0.179	0.248	0.058	0.701	0.339	0.359	3.755
21708 M	548	0.400	0.009	0.002	0.157	0.984	0.356	0.162	0.248	0.060	0.679	0.343	0.334	3.363
21718 M	573	0.363	0.009	0.002	0.133	0.661	0.417	0.227	0.223	0.059	0.506	0.251	0.255	3.110
21722 M	456	0.465	0.012	0.003	0.164	0.748	0.439	0.261	0.294	0.070	0.719	0.353	0.362	3.333
21732 M	550	0.365	0.014	0.003	0.151	0.802	0.393	0.169	0.193	0.047	0.511	0.260	0.253	3.707
21734 M	461	0.473	0.013	0.002	0.139	0.859	0.423	0.219	0.306	0.063	0.868	0.427	0.438	2.974
21744 M	622	0.350	0.011	0.002	0.146	0.752	0.384	0.209	0.211	0.047	0.505	0.248	0.252	3.482
21751 M	528	0.422	0.011	0.003	0.146	0.761	0.347	0.208	0.241	0.061	0.578	0.292	0.282	3.784
21755 M	539	0.369	0.010	0.003	0.130	0.722	0.382	0.189	0.275	0.069	0.629	0.310	0.315	3.549
21762 M	547	0.417	0.010	0.003	0.163	0.762	0.316	0.166	0.265	0.062	0.656	0.327	0.329	3.336
21763 M	459	0.412	0.015	0.002	0.142	0.734	0.381	0.240	0.233	0.057	0.614	0.314	0.303	3.510
21764 M	504	0.462	0.011	0.002	0.165	0.849	0.341	0.175	0.226	0.054	0.639	0.319	0.317	3.060
MEAN	541	0.404	0.011	0.002	0.154	0.769	0.368	0.195	0.246	0.059	0.639	0.317	0.320	3.530
S.D.	50.7	0.0405	0.0018	0.0002	0.0158	0.0704	0.0865	0.0352	0.0305	0.0088	0.0921	0.0453	0.0466	0.2913
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES LEFT	TESTES RIGHT	LIVER
										YMS	YMS			
21616 M	638	0.342	0.011	0.003	0.144	0.723	0.313	0.139	0.221	0.049	0.556	0.274	0.282	3.487
21619 M	565	0.393	0.012	0.002	0.156	0.749	0.416	0.172	0.239	0.060	0.639	0.320	0.317	3.189
21634 M	577	0.386	0.010	0.003	0.132	0.705	0.470	0.198	0.253	0.057	0.603	0.298	0.307	3.166
21635 M	533	0.379	0.009	0.002	0.143	0.670	0.370	0.158	0.240	0.051	0.696	0.343	0.345	4.411
21637 M	554	0.390	0.011	0.002	0.150	0.771	0.368	0.088	0.188	0.029	0.540	0.209	0.329	3.922
21642 M	441	0.535	0.012	0.002	0.211	0.782	0.451	0.270	0.322	0.075	0.873	0.435	0.435	2.934
21643 M	568	0.398	0.011	0.003	0.143	0.775	0.407	0.222	0.248	0.055	0.627	0.305	0.319	3.113
21645 M	440	0.468	0.018	0.003	0.095	0.807	0.341	0.175	0.286	0.066	0.723	0.364	0.359	3.977
21651 M	472	0.445	0.014	0.003	0.153	0.752	0.394	0.307	0.195	0.061	0.536	0.350	0.184	3.017
21661 M	601	0.348	0.012	0.002	0.171	0.752	0.448	0.151	0.206	0.060	0.551	0.276	0.271	4.126
21666 M	552	0.386	0.013	0.003	0.132	0.752	0.293	0.241	0.254	0.067	0.629	0.312	0.312	3.393
21672 M	509	0.415	0.012	0.002	0.185	0.713	0.466	0.228	0.253	0.063	0.619	0.314	0.305	3.308
21674 M	705	0.309	0.009	0.003	0.162	0.698	0.278	0.182	0.203	0.047	0.519	0.258	0.257	3.736
21677 M	524	0.422	0.012	0.003	0.168	0.779	0.445	0.256	0.256	0.063	0.655	0.334	0.323	3.313
21680 M	572	0.413	0.009	0.003	0.196	0.759	0.290	0.304	0.255	0.063	0.598	0.304	0.292	3.250
21684 M	498	0.440	0.011	0.002	0.149	0.741	0.418	0.159	0.289	0.066	0.775	0.386	0.390	4.319
21687 M	508	0.415	0.012	0.002	0.179	0.774	0.384	0.189	0.179	0.022	0.482	0.116	0.356	3.374
21694 M	580	0.388	0.012	0.003	0.140	0.824	0.324	0.221	0.245	0.059	0.609	0.290	0.316	3.760
21702 M	513	0.431	0.008	0.003	0.144	0.678	0.520	0.256	0.283	0.072	0.698	0.357	0.335	3.115
21704 M	481	0.437	0.012	0.003	0.158	0.667	0.520	0.256	0.285	0.062	0.786	0.387	0.397	2.854
21711 M	543	0.422	0.010	0.002	0.153	0.742	0.344	0.114	0.249	0.059	0.722	0.359	0.357	3.413
21725 M	564	0.376	0.013	0.002	0.154	0.727	0.284	0.149	0.229	0.043	0.576	0.284	0.287	3.665
21728 M	522	0.441	0.008	0.003	0.176	0.810	0.314	0.255	0.280	0.063	0.749	0.377	0.370	3.667
21743 M	545	0.409	0.012	0.002	0.125	0.679	0.350	0.200	0.209	0.046	0.470	0.228	0.240	2.765
21750 M	574	0.361	0.010	0.002	0.159	0.695	0.348	0.132	0.200	0.047	0.545	0.274	0.274	3.253
21759 M	502	0.442	0.010	0.002	0.108	0.781	0.271	0.271	0.253	0.068	0.639	0.311	0.327	3.456
21765 M	477	0.449	0.013	0.003	0.140	0.786	0.356	0.205	0.285	0.073	0.730	0.369	0.365	3.176
MEAN	539	0.409	0.011	0.002	0.153	0.744	0.372	0.202	0.245	0.057	0.635	0.312	0.320	3.450
S.D.	57.7	0.0446	0.0021	0.0003	0.0247	0.0444	0.0666	0.0566	0.0359	0.0126	0.0991	0.0645	0.0522	0.4281
N	27	27	27	27	27	27	27	27	27	27	27	27	27	27

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

GROUP 5: 10.0 MG/KG/DAY

APPENDIX R

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES		LIVER
										YMS	YMS	LEFT	RIGHT	
21614 M	553	0.391	0.013	0.003	0.165	0.738	0.282	0.170	0.244	0.063	0.642	0.318	0.325	3.255
21627 M	493	0.438	0.010	0.003	0.164	0.789	0.331	0.132	0.223	0.055	0.584	0.359	0.225	3.653
21628 M	441	0.465	0.018	0.003	0.179	0.737	0.494	0.209	0.338	0.079	0.778	0.404	0.374	3.283
21629 M	598	0.355	0.012	0.002	0.144	0.654	0.356	0.167	0.214	0.050	0.503	0.249	0.256	3.289
21648 M	484	0.452	0.012	0.003	0.167	0.800	0.514	0.225	0.304	0.076	0.756	0.374	0.382	3.370
21667 M	548	0.403	0.012	0.002	0.177	0.735	0.458	0.104	0.255	0.060	0.562	0.279	0.283	3.197
21670 M	564	0.399	0.010	0.003	0.152	0.709	0.452	0.273	0.303	0.073	0.730	0.371	0.362	2.965
21676 M	609	0.371	0.011	0.002	0.149	0.798	0.409	0.120	0.218	0.051	0.585	0.287	0.294	4.007
21683 M	548	0.407	0.010	0.002	0.155	0.690	0.420	0.206	0.255	0.064	0.580	0.281	0.296	3.485
21692 M	537	0.404	0.014	0.003	0.151	0.721	0.490	0.220	0.283	0.060	0.706	0.348	0.356	3.134
21693 M	558	0.380	0.010	0.002	0.165	0.627	0.392	0.111	0.233	0.056	0.643	0.321	0.315	3.810
21707 M	503	0.451	0.014	0.003	0.193	0.779	0.284	0.260	0.268	0.062	0.692	0.346	0.346	3.410
21710 M	547	0.422	0.012	0.002	0.174	0.782	0.417	0.210	0.256	0.048	0.640	0.316	0.318	3.658
21715 M	433	0.490	0.014	0.003	0.164	0.781	0.252	0.268	0.330	0.074	0.841	0.411	0.427	3.212
21716 M	458	0.467	0.015	0.003	0.168	0.694	0.415	0.266	0.301	0.072	0.714	0.356	0.352	2.934
21720 M	516	0.417	0.011	0.003	0.149	0.709	0.450	0.233	0.293	0.074	0.719	0.357	0.359	3.174
21724 M	514	0.426	0.012	0.003	0.150	0.656	0.292	0.121	0.270	0.066	0.741	0.374	0.368	3.438
21726 M	534	0.384	0.010	0.002	0.161	0.818	0.382	0.204	0.257	0.062	0.599	0.303	0.296	3.257
21727 M	576	0.380	0.010	0.002	0.139	0.733	0.247	0.224	0.248	0.061	0.625	0.313	0.316	3.597
21730 M	504	0.403	0.011	0.002	0.143	0.736	0.446	0.171	0.270	0.073	0.663	0.327	0.329	3.026
21740 M	503	0.447	0.011	0.002	0.159	0.746	0.300	0.181	0.258	0.062	0.658	0.326	0.330	2.920
21745 M	519	0.428	0.012	0.003	0.170	0.736	0.239	0.220	0.262	0.067	0.649	0.326	0.326	3.077
21746 M	484	0.434	0.011	0.002	0.163	0.731	0.411	0.163	0.273	0.068	0.707	0.341	0.360	3.401
21752 M	522	0.423	0.012	0.002	0.157	0.703	0.429	0.193	0.257	0.048	0.682	0.345	0.337	3.249
21754 M	550	0.404	0.012	0.002	0.195	0.767	0.322	0.195	0.216	0.053	0.545	0.267	0.280	3.405
21756 M	488	0.410	0.014	0.003	0.180	0.791	0.391	0.207	0.279	0.068	0.717	0.359	0.359	3.223
21758 M	551	0.410	0.010	0.002	0.152	0.786	0.359	0.171	0.214	0.049	0.593	0.301	0.289	3.207
21760 M	504	0.409	0.010	0.003	0.155	0.752	0.274	0.244	0.274	0.073	0.710	0.347	0.357	3.216
MEAN	523	0.417	0.012	0.002	0.162	0.739	0.375	0.195	0.264	0.063	0.663	0.332	0.329	3.316
S.D.	42.7	0.0312	0.0018	0.0003	0.0140	0.0478	0.0810	0.0482	0.0328	0.0094	0.0771	0.0390	0.0423	0.2575
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.



APPENDIX R  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY	SPLEEN	KIDNEYS	UTERUS	LIVER		
306 F	353	0.581	0.019	0.035	0.004	0.198	0.697	0.093	4.346		
311 F	309	0.663	0.024	0.035	0.005	0.172	0.841	0.159	4.356		
317 F	326	0.620	0.025	0.041	0.004	0.202	0.850	0.169	4.748		
321 F	374	0.527	0.023	0.024	0.004	0.144	0.746	0.136	4.615		
323 F	336	0.589	0.022	0.028	0.005	0.199	0.699	0.140	4.241		
345 F	400	0.485	0.018	0.026	0.006	0.188	0.680	0.112	3.825		
348 F	349	0.633	0.022	0.028	0.006	0.186	0.725	0.146	4.607		
353 F	319	0.614	0.024	0.031	0.005	0.191	0.771	0.182	3.981		
355 F	323	0.601	0.021	0.025	0.005	0.173	0.740	0.158	4.514		
371 F	324	0.633	0.019	0.026	0.004	0.185	0.833	0.123	3.725		
380 F	331	0.650	0.025	0.031	0.005	0.190	0.737	0.172	3.873		
384 F	349	0.590	0.025	0.032	0.005	0.160	0.708	0.100	4.516		
388 F	324	0.636	0.022	0.029	0.004	0.160	0.688	0.114	3.781		
390 F	335	0.627	0.023	0.025	0.005	0.131	0.722	0.122	4.501		
400 F	309	0.634	0.019	0.034	0.006	0.181	0.841	0.155	4.006		
403 F	344	0.599	0.020	0.028	0.005	0.172	0.730	0.131	4.561		
408 F	287	0.679	0.026	0.031	0.005	0.153	0.794	0.164	4.188		
420 F	327	0.661	0.018	0.033	0.005	0.217	0.694	0.144	3.627		
425 F	325	0.575	0.022	0.038	0.005	0.154	0.708	0.089	3.917		
426 F	349	0.567	0.020	0.024	0.005	0.178	0.851	0.077	4.877		
427 F	386	0.539	0.024	0.028	0.003	0.158	0.777	0.093	4.466		
449 F	366	0.596	0.022	0.032	0.005	0.180	0.765	0.098	4.462		
450 F	342	0.582	0.020	0.032	0.004	0.173	0.751	0.099	4.661		
628 F	360	0.544	0.025	0.024	0.005	0.161	0.819	0.114	4.753		
MEAN	339	0.601	0.022	0.030	0.005	0.175	0.757	0.129	4.298		
S.D.	25.6	0.0468	0.0025	0.0046	0.0007	0.0201	0.0566	0.0300	0.3691		
N	24	24	24	24	24	24	24	24	24		

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	KIDNEYS	UTERUS	LIVER				
310 F	306	0.569	0.022	0.035	0.004	0.167	0.781	0.092	4.281			
312 F	290	0.648	0.024	0.026	0.005	0.186	0.807	0.124	3.941			
313 F	306	0.657	0.025	0.023	0.004	0.193	0.791	0.098	4.647			
314 F	345	0.528	0.025	0.030	0.003	0.174	0.730	0.093	4.528			
324 F	345	0.577	0.022	0.033	0.005	0.142	0.826	0.101	4.699			
325 F	320	0.625	0.029	0.031	0.005	0.184	0.753	0.094	4.550			
329 F	358	0.556	0.020	0.027	0.004	0.201	0.760	0.087	4.260			
354 F	378	0.587	0.022	0.035	0.005	0.172	0.810	0.148	4.603			
363 F	352	0.571	0.019	0.029	0.005	0.151	0.767	0.148	4.523			
377 F	374	0.537	0.024	0.023	0.004	0.198	0.751	0.136	4.719			
397 F	335	0.603	0.027	0.029	0.005	0.191	0.839	0.197	4.716			
406 F	386	0.541	0.017	0.020	0.005	0.148	0.744	0.135	4.334			
409 F	339	0.596	0.024	0.028	0.005	0.186	0.749	0.130	4.493			
411 F	333	0.577	0.022	0.033	0.004	0.168	0.739	0.123	4.027			
413 F	370	0.557	0.026	0.028	0.005	0.214	0.749	0.132	4.305			
419 F	326	0.586	0.024	0.030	0.004	0.190	0.816	0.135	4.758			
422 F	338	0.589	0.023	0.023	0.004	0.192	0.790	0.107	4.583			
423 F	286	0.717	0.023	0.035	0.005	0.140	0.787	0.098	4.269			
428 F	346	0.572	0.023	0.026	0.005	0.185	0.740	0.098	4.795			
429 F	372	0.551	0.025	0.024	0.005	0.183	0.812	0.126	4.858			
430 F	337	0.585	0.020	0.030	0.005	0.154	0.792	0.131	4.855			
431 F	344	0.590	0.028	0.033	0.005	0.183	0.863	0.102	4.453			
440 F	324	0.586	0.025	0.035	0.005	0.173	0.818	0.194	5.231			
447 F	355	0.580	0.021	0.032	0.004	0.194	0.848	0.096	5.211			
629 F	340	0.574	0.023	0.024	0.004	0.200	0.726	0.138	4.603			

MEAN	340	0.586	0.023	0.029	0.005	0.179	0.783	0.122	4.570
S.D.	25.9	0.0407	0.0027	0.0044	0.0005	0.0196	0.0391	0.0293	0.3080
N	25	25	25	25	25	25	25	25	25

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				LIVER
		BRAIN	GLAND	OVARIES	TARY	SPLEEN	KIDNEYS	UTERUS		
304 F	334	0.578	0.024	0.031	0.005	0.165	0.820	0.117	4.473	
307 F	327	0.578	0.024	0.036	0.006	0.180	0.719	0.104	4.899	
332 F	374	0.535	0.023	0.029	0.004	0.206	0.719	0.107	3.928	
338 F	302	0.629	0.028	0.037	0.005	0.199	0.732	0.113	4.652	
340 F	349	0.553	0.019	0.024	0.004	0.143	0.656	0.077	4.650	
342 F	331	0.544	0.020	0.024	0.004	0.163	0.707	0.124	4.695	
343 F	337	0.579	0.024	0.023	0.004	0.202	0.774	0.119	4.398	
351 F	373	0.515	0.020	0.020	0.005	0.147	0.735	0.113	4.633	
356 F	315	0.613	0.026	0.030	0.004	0.206	0.695	0.159	4.314	
357 F	308	0.633	0.023	0.027	0.005	0.169	0.766	0.104	3.786	
359 F	376	0.532	0.026	0.027	0.006	0.181	0.798	0.181	4.915	
367 F	317	0.596	0.023	0.038	0.005	0.180	0.811	0.142	4.662	
368 F	313	0.610	0.026	0.031	0.005	0.176	0.760	0.147	4.460	
372 F	354	0.616	0.025	0.033	0.005	0.209	0.763	0.144	4.613	
373 F	351	0.590	0.026	0.029	0.005	0.185	0.880	0.134	4.504	
382 F	323	0.570	0.025	0.034	0.004	0.161	0.793	0.121	4.687	
385 F	329	0.587	0.026	0.031	0.004	0.164	0.739	0.076	4.292	
404 F	336	0.571	0.021	0.026	0.004	0.333	0.807	0.116	5.003	
418 F	331	0.592	0.018	0.030	0.005	0.178	0.755	0.106	4.792	
421 F	337	0.573	0.025	0.023	0.005	0.163	0.807	0.125	4.697	
432 F	339	0.575	0.026	0.025	0.004	0.150	0.749	0.109	4.687	
439 F	352	0.560	0.027	0.033	0.004	0.182	0.787	0.099	4.506	
444 F	315	0.603	0.026	0.035	0.004	0.171	0.803	0.146	4.378	
445 F	321	0.614	0.025	0.029	0.005	0.209	0.798	0.134	4.458	
625 F	293	0.631	0.023	0.037	0.005	0.171	0.744	0.102	4.379	

MEAN	333	0.583	0.024	0.030	0.005	0.184	0.765	0.121	4.538
S.D.	21.8	0.0319	0.0025	0.0049	0.0006	0.0365	0.0478	0.0239	0.2770
N	25	25	25	25	25	25	25	25	25

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	KIDNEYS	UTERUS	LIVER				
303 F	334	0.593	0.021	0.027	0.005	0.195	0.698	0.108	4.099			
316 F	354	0.571	0.017	0.028	0.005	0.195	0.743	0.124	4.311			
326 F	330	0.591	0.020	0.023	0.006	0.139	0.812	0.121	4.415			
328 F	277	0.755	0.032	0.024	0.006	0.166	0.928	0.108	4.466			
330 F	301	0.651	0.020	0.030	0.006	0.169	0.831	0.073	3.944			
344 F	333	0.637	0.027	0.039	0.005	0.165	0.808	0.135	4.261			
346 F	351	0.564	0.025	0.033	0.004	0.174	0.744	0.100	4.504			
347 F	359	0.554	0.020	0.028	0.005	0.167	0.730	0.114	4.735			
350 F	320	0.572	0.022	0.027	0.004	0.178	0.709	0.119	4.412			
360 F	333	0.547	0.019	0.027	0.005	0.147	0.706	0.159	4.706			
361 F	403	0.538	0.021	0.024	0.005	0.174	0.829	0.092	4.573			
365 F	348	0.580	0.024	0.032	0.005	0.218	0.894	0.147	4.782			
374 F	337	0.579	0.024	0.025	0.006	0.166	0.801	0.107	5.003			
375 F	381	0.512	0.026	0.035	0.004	0.213	0.727	0.097	4.577			
381 F	320	0.597	0.027	0.030	0.005	0.175	0.753	0.116	4.475			
389 F	290	0.655	0.024	0.032	0.005	0.172	0.783	0.152	4.824			
393 F	321	0.620	0.022	0.037	0.004	0.187	0.754	0.103	4.589			
398 F	290	0.693	0.030	0.035	0.004	0.221	0.762	0.141	4.355			
402 F	350	0.563	0.021	0.032	0.003	0.169	0.731	0.074	4.063			
410 F	318	0.607	0.027	0.035	0.004	0.186	0.755	0.123	4.362			
414 F	358	0.559	0.024	0.035	0.004	0.204	0.723	0.101	4.430			
416 F	353	0.572	0.027	0.031	0.005	0.187	0.731	0.102	4.983			
417 F	367	0.553	0.024	0.024	0.005	0.158	0.809	0.163	5.117			
436 F	365	0.570	0.019	0.026	0.004	0.175	0.696	0.096	4.079			
443 F	298	0.658	0.023	0.029	0.005	0.225	0.711	0.148	4.460			
451 F	391	0.565	0.023	0.034	0.005	0.171	0.829	0.092	4.601			
MEAN	338	0.594	0.023	0.030	0.005	0.181	0.769	0.116	4.505			
S.D.	31.6	0.0533	0.0036	0.0045	0.0006	0.0217	0.0598	0.0246	0.2948			
N	26	26	26	26	26	26	26	26	26			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX R  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	KIDNEYS	UTERUS	LIVER				
308 F	371	0.585	0.022	0.030	0.005	0.186	0.755	0.116	4.334			
318 F	327	0.606	0.024	0.031	0.005	0.165	0.810	0.144	4.746			
319 F	333	0.619	0.024	0.019	0.004	0.162	0.826	0.120	4.775			
327 F	347	0.582	0.024	0.029	0.004	0.162	0.761	0.107	4.421			
331 F	342	0.582	0.025	0.025	0.004	0.184	0.705	0.155	3.781			
333 F	314	0.637	0.021	0.032	0.005	0.169	0.783	0.124	5.025			
336 F	347	0.585	0.023	0.028	0.006	0.210	0.790	0.115	5.490			
337 F	327	0.618	0.026	0.029	0.004	0.177	0.749	0.104	4.180			
352 F	340	0.562	0.019	0.027	0.005	0.200	0.774	0.118	4.332			
358 F	412	0.527	0.023	0.024	0.004	0.175	0.774	0.102	4.956			
362 F	337	0.611	0.021	0.031	0.004	0.202	0.780	0.089	3.849			
364 F	326	0.586	0.021	0.031	0.004	0.184	0.730	0.101	4.607			
378 F	374	0.545	0.023	0.027	0.004	0.190	0.767	0.136	4.636			
394 F	324	0.620	0.023	0.036	0.004	0.188	0.910	0.120	4.815			
395 F	320	0.606	0.021	0.025	0.005	0.141	0.744	0.122	4.506			
396 F	364	0.569	0.027	0.031	0.004	0.179	0.783	0.115	4.511			
399 F	364	0.563	0.023	0.025	0.004	0.162	0.802	0.121	4.736			
405 F	315	0.632	0.023	0.033	0.006	0.171	0.892	0.133	4.489			
415 F	340	0.579	0.022	0.033	0.005	0.153	0.718	0.088	4.353			
434 F	368	0.563	0.023	0.031	0.005	0.185	0.723	0.092	4.701			
435 F	359	0.563	0.025	0.027	0.005	0.173	0.749	0.095	4.184			
437 F	377	0.549	0.021	0.028	0.004	0.180	0.653	0.106	3.838			
438 F	316	0.623	0.026	0.032	0.005	0.196	0.823	0.168	4.231			
441 F	313	0.591	0.024	0.036	0.005	0.182	0.898	0.128	5.300			
448 F	389	0.486	0.021	0.027	0.007	0.188	0.771	0.131	4.311			
626 F	343	0.598	0.018	0.028	0.006	0.169	0.717	0.149	4.767			
627 F	355	0.580	0.023	0.027	0.005	0.175	0.794	0.118	4.839			
MEAN	346	0.584	0.023	0.029	0.005	0.180	0.777	0.119	4.545			
S.D.	25.2	0.0340	0.0020	0.0038	0.0007	0.0172	0.0585	0.0199	0.4100			
N	27	27	27	27	27	27	27	27	27			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI Study No. 3472.4

APPENDIX S

Individual F0 Male Semen Analysis Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX S  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL FO MALE SEMEN ANALYSIS DATA

PAGE 1

GROUP 1: 0 MG/KG/DAY

SCHEDULED EUTHANASIA

ANIMAL NO.	% MOTILITY	CONCENTRATION (M/ML)	TOTAL SPERM (M/G)	% NORMAL SPERM MORPHOLOGY
21621	84	2.3	683.4	86.0
21623	86	4.0	901.4	90.5
21625	96	1.8	531.5	93.5
21630	91	4.2	838.9	89.5
21636	89	4.3	875.5	86.0
21638	89	7.0	1220.0	85.5
21639	93	3.1	747.1	93.0
21640	89	4.5	810.0	89.0
21646	93	3.0	780.0	90.5
21647	89	3.6	816.5	92.0
21649	91	3.2	731.6	96.5
21652	97	4.3	936.5	90.5
21656	84	3.8	891.0	89.0
21660	92	3.4	830.9	89.0
21665	94	6.0	1276.3	59.5
21673	92	4.0	894.9	89.5
21686	94	5.1	1126.3	71.0
21688	87	3.2	795.5	a
21695	93	3.4	708.7	89.5
21703	88	3.3	684.9	92.5
21709	90	3.3	572.0	95.5
21719	91	4.4	968.2	83.5
21721	94	3.4	796.5	97.0
21723	91	3.2	702.4	96.5
21729	95	3.4	860.6	91.5
21738	87	3.7	756.4	90.5
21739	95	4.2	767.3	93.0
21761	92	4.3	832.5	87.5
MEAN	91	3.8	833.5	88.8
S.D.	3.4	1.03	166.20	7.76
N	28	28	28	27

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI S. a SAMPLE WAS NOT EVALUATED DUE TO TECHNICAL ERROR.

APPENDIX S  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO MALE SEMEN ANALYSIS DATA

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY SCHEDULED EUTHANASIA

ANIMAL NO. % NORMAL SPERM MORPHOLOGY

21611	95.0
21612	91.5
21617	95.5
21618	94.0
21620	95.5
21631	86.5
21633	55.0
21641	85.0
21644	93.5
21657	FOUND DEAD
21664	a
21668	93.5
21679	92.5
21681	92.0
21685	95.5
21689	92.5
21690	94.5
21705	93.0
21713	89.5
21714	85.0
21717	89.5
21735	93.5
21736	85.5
21737	95.5
21741	89.5
21748	94.5
21749	90.5
21757	96.5

MEAN 90.6  
 S. D. 8.02  
 N 26

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI. a SPERM WAS NOT PRESENT.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX S  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO MALE SEMEN ANALYSIS DATA

GROUP 3: 2.5 MG/KG/DAY SCHEDULED EUTHANASIA

ANIMAL NO. % NORMAL SPERM MORPHOLOGY

21613	91.0
21624	88.0
21632	92.0
21650	89.0
21658	90.0
21659	91.0
21662	85.0
21663	88.0
21669	90.0
21671	83.0
21682	94.0
21691	92.0
21696	82.5
21698	96.0
21699	95.5
21701	98.0
21706	92.0
21708	97.5
21718	92.5
21722	89.0
21732	84.0
21734	89.5
21744	97.0
21751	92.5
21755	97.5
21762	90.0
21763	94.5
21764	88.5

MEAN 91.1  
 S. D. 4.31  
 N 28

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI.

APPENDIX S  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL FO MALE SEMEN ANALYSIS DATA

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY SCHEDULED EUTHANASIA

ANIMAL NO. % NORMAL SPERM MORPHOLOGY

21616	94.0
21619	91.0
21634	92.0
21635	89.0
21637	95.5
21642	95.0
21643	92.0
21645	92.5
21651	a
21654	FOUND DEAD
21661	94.0
21666	94.5
21672	97.5
21674	94.0
21677	85.0
21680	95.5
21684	88.5
21687	87.0
21694	87.0
21702	86.0
21704	86.5
21711	89.5
21725	84.5
21728	90.5
21743	85.5
21750	96.0
21759	88.0
21765	81.5

MEAN 90.5  
 S. D. 4.28  
 N 26

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI. a SPERM WAS NOT PRESENT.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL FO MALE SEMEN ANALYSIS DATA

APPENDIX S

GROUP 5: 10.0 MG/KG/DAY

SCHEDULED EUTHANASIA

ANIMAL NO.	% MOTILITY	CONCENTRATION (M/ML)	TOTAL SPERM (M/G)	% NORMAL SPERM MORPHOLOGY
21614	91	3.8	769.5	77.0
21627	80	3.4	877.5	a
21628	95	3.3	665.3	78.0
21629	91	6.7	1556.0	85.5
21648	85	5.4	1025.4	81.5
21667	94	7.7	1627.7	82.0
21670	93	5.1	863.0	88.5
21676	88	5.2	1182.6	93.0
21683	86	4.4	883.0	87.5
21692	93	5.2	1139.0	87.0
21693	92	5.2	1168.9	82.0
21707	93	4.6	1038.2	81.0
21710	91	3.0	819.8	75.5
21715	92	4.8	1045.8	88.0
21716	92	4.6	981.8	93.5
21720	94	5.1	931.1	88.0
21724	89	5.2	1078.3	82.5
21726	88	5.7	1201.4	75.5
21727	95	5.9	1181.4	78.0
21730	94	4.8	916.0	82.0
21740	93	4.7	1065.7	86.5
21745	96	4.3	864.8	79.5
21746	93	3.9	820.3	94.5
21752	86	3.5	972.0	89.0
21754	92	3.9	948.1	94.5
21756	92	3.7	788.0	87.0
21758	93	3.3	868.4	88.0
21760	94	4.7	881.4	88.5
MEAN	91	4.7	1005.7	84.9
S.D.	3.6	1.06	216.00	5.67
N	28	28	28	27

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI S. a SPERM COUNT WAS LOW DUE TO TESTIS LESION.

(500)

SLI Study No. 3472.4

APPENDIX T

Histopathology Report

SLI Study No. 3472.4

## HISTOPATHOLOGY REPORT

## METHODS

Hematoxylin and eosin stained, paraffin embedded sections of the following organs and tissues were examined microscopically from surviving F<sub>0</sub> and F<sub>1</sub> male and female rats from exposure groups 1 and 5:

adrenal glands (2)	seminal vesicles (2)
all gross lesions	testes (2)
brain	Females
kidneys (2)	cervix
liver	ovaries (2)
pituitary gland	oviducts (2)
spleen	uterus
Males	vagina
prostate	
right epididymis	

From the F<sub>0</sub> cohort, 2 females were euthanized in a moribund state, and one other female and two males were found dead. From the F<sub>1</sub> cohort two males were found dead. The following tissues were examined on each of these animals:

adrenal glands	spleen
all gross lesions	stomach
brain (including sections of medulla/pons, cerebellar cortex and cerebral cortex)	thymus
cecum	thyroid/parathyroid glands (2)
colon	trachea
duodenum	urinary bladder
esophagus	Males
heart	epididymides (2)
ileum	prostate
jejunum	seminal vesicles (2)
kidneys (2)	testes (2)
liver (2 lobes)	Females
lung with bronchi (2)	ovaries (2)
mammary gland	uterus
pancreas	vagina
pituitary gland	
spinal cord (3 levels)	

SLI Study No. 3472.4

Two additional F<sub>1</sub> cohort females were found dead, but histopathologic assessment was not performed due to extensive cannibalization; they were examined grossly.

## RESULTS

The Summary Incidence of Microscopic Findings for all animals, by dosage group, is given in Table 1. Individual Macroscopic and Microscopic Findings for all study animals are given in Table 2 and the Tissue Inventory is in Table 3.

Test article related lesions were not observed in either the F<sub>0</sub> or F<sub>1</sub> phase of this study.

Minimal to mild chronic inflammation of the lung was observed in control and treated rats of both sexes in the F<sub>0</sub> phase. The lesion consisted of small focal interstitial accumulations of lymphocytes and macrophages with occasional granulocytes, usually adjacent to larger blood vessels. These lesions are compatible with a rat pulmonary lesion that has been recently found in laboratory rats from supplier colonies in the U.S. and Europe. It has been tentatively called Idiopathic Lung Lesions in Rats (ILLR). Currently no etiology has been identified. No clinical signs are associated with this condition and it is apparently transitory in that lesions have only been found in rats between the ages of 8 and 20 weeks [1-3]. These lung lesions are not considered to be compound related and did not interfere with the histopathologic interpretation of this study.

Minimal to mild inflammatory and degenerative changes were noted in the kidneys. These changes are lesions typically associated with a spontaneous, progressive, rodent nephropathy and are considered background in nature. There was one neoplasm, a nephroblastoma, observed in the left kidney of F<sub>1</sub> female # 437-08 from Group 5. This lesion was interpreted as a spontaneous event and not considered test article related.

From the F<sub>0</sub> phase, two females, #341 and #309, from Groups 1 and 4, respectively, were euthanized due to excessive aggressiveness (#341) or for humane reasons (#309). Number 341 displayed mild hyperplastic changes within the spleen, while #309 demonstrated prominent inflammatory changes in multiple tissues and lymphoid hyperplasia in splenic white pulp and several lymph nodes. The lymphoid hyperplasia was interpreted as a nonspecific immune response and not interpreted as a test article related change. One other F<sub>0</sub> female (#452 from Group 5) and two F<sub>0</sub> males (#s 21657 and 21654 from Groups 2 and 4, respectively) were found dead. No obvious cause of death was apparent in #s 452 and 21657. In #21654, however, distinct lesions suggestive of a gavage injury were evident in the esophagus.

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It is speculated that the inflammatory changes noted in other tissues were sequellae to the primary esophageal lesion. Similar changes suggestive of gavage injury were present in tissues from one of the two Group 2 F<sub>1</sub> males found dead (# 423-03). No definitive cause of death was evident microscopically in tissues examined from the other Group 2 F<sub>1</sub> male (#354-05). Tissues from the two F<sub>1</sub> females that died due to accidental injuries (#s 389-09 and 425-13 of Groups 4 and 1, respectively) were not collected due to severe cannibalization that occurred during gang housing of these rats.

Implantation sites noted at gross examination were corroborated microscopically by the observation of pigment in the uterine wall. Other minimal inflammatory and degenerative changes were considered insignificant.



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Date: 12/20/00

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1A

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 4	Group 5
ADRENAL	( 28)	( 1)	( 1)	( 28)
DILATATION	4	0	0	2
MINIMAL	4	0	0	2
HYPERPLASIA	1	0	0	0
MINIMAL	1	0	0	0
VACUOLAR CHANGE	9	0	0	12
MINIMAL	9	0	0	10
MILD	0	0	0	2
WITHIN NORMAL LIMITS	15	1	1	15
BRAIN	( 28)	( 1)	( 1)	( 28)
WITHIN NORMAL LIMITS	28	1	1	28
CECUM	( 0)	( 1)	( 1)	( 0)
AUTOLYSIS	0	1	0	0
MILD	0	1	0	0
WITHIN NORMAL LIMITS	0	0	1	0
COLON	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
DUODENUM	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
EPIDIDYMIS	( 28)	( 1)	( 1)	( 28)
WITHIN NORMAL LIMITS	28	1	1	28
ESOPHAGUS	( 0)	( 1)	( 1)	( 0)
INFLAMMATION	0	0	1	0
CHRONIC/ACTIVE, SEVERE	0	0	1	0
WITHIN NORMAL LIMITS	0	1	0	0
EYE	( 1)	( 0)	( 0)	( 0)
HEMORRHAGE	1	0	0	0
MILD	1	0	0	0
HEART	( 0)	( 1)	( 1)	( 0)
INFLAMMATION	0	0	1	0
CHRONIC, MINIMAL	0	0	1	0
WITHIN NORMAL LIMITS	0	1	0	0
ILEUM	( 0)	( 1)	( 1)	( 0)
AUTOLYSIS	0	1	0	0
MODERATE	0	1	0	0
WITHIN NORMAL LIMITS	0	0	1	0
JEJUNUM	( 0)	( 1)	( 1)	( 0)
AUTOLYSIS	0	1	0	0
MODERATE	0	1	0	0
WITHIN NORMAL LIMITS	0	0	1	0
KIDNEY	( 28)	( 1)	( 1)	( 28)
DILATATION	1	0	0	0
MINIMAL	1	0	0	0

Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 4 5.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 1



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males (continued)

Table: 1A

PROJECT NUMBER: 3472.4 SPECIES: RAT

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 4	Group 5
KIDNEY (continued)				
DILATATION, TUBULAR	2	0	0	1
MINIMAL	2	0	0	1
FIBROSIS	3	0	0	1
MINIMAL	3	0	0	1
HYPERPLASIA	0	0	0	1
MINIMAL	0	0	0	1
INFLAMMATION	14	0	0	9
CHRONIC, MINIMAL	14	0	0	9
MINERALIZATION	2	0	0	0
MINIMAL	2	0	0	0
REGENERATION, TUBULAR	7	0	0	2
MINIMAL	7	0	0	2
WITHIN NORMAL LIMITS	11	1	1	17
LIVER	( 28)	( 1)	( 1)	( 28)
INFLAMMATION	8	0	0	15
CHRONIC, MINIMAL	8	0	0	15
VACUOLAR CHANGE	11	0	0	0
MINIMAL	11	0	0	0
WITHIN NORMAL LIMITS	11	1	1	13
LUNG	( 0)	( 1)	( 1)	( 5)
INFLAMMATION	0	1	1	5
CHRONIC, MINIMAL	0	0	0	1
CHRONIC, MILD	0	0	0	4
CHRONIC/ACTIVE, MINIMAL	0	1	1	0
MAMMARY GLAND	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
PANCREAS	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
PARATHYROID	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
PITUITARY	( 28)	( 1)	( 1)	( 28)
CONGESTION	0	1	0	0
MINIMAL	0	1	0	0
CYST	1	0	0	1
MINIMAL	1	0	0	1
CYST, CRANIOPHARYNGEAL	2	0	0	0
MINIMAL	2	0	0	0
HYPERPLASIA	0	0	0	1
MINIMAL	0	0	0	1
WITHIN NORMAL LIMITS	25	0	1	26

## Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 4 5.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

() = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 2

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males (continued)

Table: 1A

PROJECT NUMBER: 3472.4 SPECIES: RAT

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 4	Group 5
PROSTATE	( 28)	( 1)	( 1)	( 28)
DILATATION	1	0	0	0
MINIMAL	1	0	0	0
FIBROSIS	1	0	0	0
MINIMAL	1	0	0	0
INFLAMMATION	12	1	1	16
CHRONIC, MINIMAL	12	1	1	16
WITHIN NORMAL LIMITS	15	0	0	12
SEMINAL VESICLE	( 28)	( 1)	( 1)	( 28)
WITHIN NORMAL LIMITS	28	1	1	28
SKIN	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
SPINAL CORD	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
SPLEEN	( 28)	( 1)	( 1)	( 28)
FIBROSIS	1	0	0	0
MINIMAL	1	0	0	0
HYPERPLASIA	0	1	1	0
MINIMAL	0	1	0	0
MILD	0	0	1	0
WITHIN NORMAL LIMITS	27	0	0	28
STOMACH	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
TESTIS	( 28)	( 1)	( 1)	( 28)
DEGENERATION, TUBULAR	0	0	0	1
MODERATE	0	0	0	1
WITHIN NORMAL LIMITS	28	1	1	27
THYMUS	( 0)	( 1)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	1	0
THYROID	( 0)	( 1)	( 1)	( 0)
INFLAMMATION	0	0	1	0
CHRONIC, MINIMAL	0	0	1	0
WITHIN NORMAL LIMITS	0	1	0	0
TRACHEA	( 0)	( 1)	( 1)	( 0)
INFLAMMATION	0	0	1	0
CHRONIC/ACTIVE, MILD	0	0	1	0
WITHIN NORMAL LIMITS	0	1	0	0
URINARY BLADDER	( 0)	( 0)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	0	1	0

## Titles:

Group 1 0 MG/KG/DAY

Group 2 1.0 MG/KG/DAY

Group 4 5.0 MG/KG/DAY

Group 5 10.0 MG/KG/DAY

() = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1B

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 4	Group 5
ADRENAL	( 28)	( 1)	( 28)
DILATATION	12	0	15
MINIMAL	3	0	9
MILD	9	0	6
VACUOLAR CHANGE	0	0	1
MILD	0	0	1
WITHIN NORMAL LIMITS	16	1	12
BRAIN	( 28)	( 1)	( 28)
INFLAMMATION	0	1	1
ACUTE, MINIMAL	0	0	1
CHRONIC, MILD	0	1	0
WITHIN NORMAL LIMITS	28	0	27
CECUM	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
CERVIX	( 25)	( 0)	( 21)
WITHIN NORMAL LIMITS	25	0	21
COLON	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
DIAPHRAGM	( 1)	( 0)	( 1)
HEPATODIAPHRAGMATIC NODULE	1	0	1
MINIMAL	1	0	1
DUODENUM	( 1)	( 1)	( 1)
INFLAMMATION	0	0	1
CHRONIC/ACTIVE, MINIMAL	0	0	1
WITHIN NORMAL LIMITS	1	1	0
ESOPHAGUS	( 1)	( 1)	( 1)
INFLAMMATION	0	1	0
CHRONIC, MINIMAL	0	1	0
WITHIN NORMAL LIMITS	1	0	1
HEART	( 1)	( 1)	( 1)
INFLAMMATION	0	0	1
ACUTE, MINIMAL	0	0	1
WITHIN NORMAL LIMITS	1	1	0
ILEUM	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
JEJUNUM	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
KIDNEY	( 28)	( 1)	( 28)
CYST	1	0	1
MILD	1	0	1
DILATATION, TUBULAR	0	0	5
MINIMAL	0	0	4

Titles:

Group 1 0 MG/KG/DAY

Group 4 5.0 MG/KG/DAY

Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

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Microscopic Incidence Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females (continued)

Table: 1B

PROJECT NUMBER: 3472.4 SPECIES: RAT

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 4	Group 5
KIDNEY (continued)			
DILATATION, TUBULAR			
MILD	0	0	1
INFLAMMATION	4	1	4
CHRONIC, MINIMAL	4	1	4
MINERALIZATION	1	0	1
MINIMAL	1	0	1
WITHIN NORMAL LIMITS	24	0	19
LIVER	( 28)	( 1)	( 28)
FIBROSIS	0	0	1
MINIMAL	0	0	1
INFLAMMATION	3	1	2
CHRONIC, MINIMAL	3	0	2
CHRONIC/ACTIVE, MINIMAL	0	1	0
LEUKOCYTOSIS	0	0	1
MILD	0	0	1
WITHIN NORMAL LIMITS	25	0	25
LUNG	( 5)	( 1)	( 3)
ATELECTASIS	1	0	0
MILD	1	0	0
HEMORRHAGE	0	0	1
MINIMAL	0	0	1
INFLAMMATION	3	1	3
CHRONIC, MINIMAL	2	1	1
CHRONIC, MILD	1	0	1
CHRONIC/ACTIVE, MILD	0	0	1
WITHIN NORMAL LIMITS	1	0	0
LYMPH NODE	( 0)	( 1)	( 0)
HYPERPLASIA	0	1	0
MODERATE	0	1	0
MAMMARY GLAND	( 1)	( 1)	( 0)
HYPERPLASIA	1	0	0
MODERATE	1	0	0
WITHIN NORMAL LIMITS	0	1	0
OVARY	( 28)	( 1)	( 28)
WITHIN NORMAL LIMITS	28	1	28
OVIDUCT	( 27)	( 0)	( 27)
WITHIN NORMAL LIMITS	27	0	27
PANCREAS	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
PARATHYROID	( 0)	( 1)	( 0)
WITHIN NORMAL LIMITS	0	1	0

## Titles:

Group 1 0 MG/KG/DAY

Group 4 5.0 MG/KG/DAY

Group 5 10.0 MG/KG/DAY

() = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 2

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females (continued)

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1B

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 4	Group 5
PITUITARY	( 28)	( 1)	( 28)
CYST, CRANIOPHARYNGEAL	0	0	1
MINIMAL	0	0	1
HYPERPLASIA	3	0	6
MINIMAL	3	0	5
MILD	0	0	1
HYPERTROPHY	1	0	1
MINIMAL	1	0	1
WITHIN NORMAL LIMITS	24	1	20
SKIN	( 0)	( 1)	( 0)
INFLAMMATION	0	1	0
CHRONIC/ACTIVE, SEVERE	0	1	0
SPINAL CORD	( 1)	( 1)	( 1)
INFLAMMATION	0	0	1
ACUTE, MINIMAL	0	0	1
WITHIN NORMAL LIMITS	1	1	0
SPLEEN	( 28)	( 1)	( 28)
HEMATOPOIESIS, EXTRAMEDULLARY	0	1	0
MILD	0	1	0
HYPERPLASIA	0	1	1
MODERATE	0	1	0
SEVERE	0	0	1
HYPERPLASIA, LYMPHOID	1	0	0
MILD	1	0	0
WITHIN NORMAL LIMITS	27	0	27
STOMACH	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1
THYMUS	( 1)	( 1)	( 1)
CYST	1	0	0
MINIMAL	1	0	0
INVOLUTION, PHYSIOLOGIC	0	0	1
WITHIN NORMAL LIMITS	0	1	0
THYROID	( 0)	( 1)	( 0)
ULTIMOBRANCHIAL CYST	0	1	0
MINIMAL	0	1	0
THYROID/PARATHYROID	( 2)	( 0)	( 1)
HEMORRHAGE	1	0	0
MINIMAL	1	0	0
WITHIN NORMAL LIMITS	1	0	1
TRACHEA	( 1)	( 1)	( 1)
WITHIN NORMAL LIMITS	1	1	1

Titles:

Group 1 0 MG/KG/DAY  
Group 4 5.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females (continued)

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1B

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 4	Group 5
	-----	-----	-----
URINARY BLADDER	( 1)	( 0)	( 1)
WITHIN NORMAL LIMITS	1	0	1
UTERUS	( 28)	( 1)	( 28)
PIGMENT	21	0	21
WITHIN NORMAL LIMITS	7	1	7
VAGINA	( 26)	( 0)	( 24)
WITHIN NORMAL LIMITS	26	0	24

Titles:

Group 1 0 MG/KG/DAY

Group 4 5.0 MG/KG/DAY

Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 4

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1C

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 5
ADRENAL	( 28)	( 2)	( 28)
DILATATION	10	0	9
MINIMAL	8	0	7
MILD	2	0	2
HYPERPLASIA	0	0	1
MINIMAL	0	0	1
HYPERTROPHY	1	0	0
MINIMAL	1	0	0
VACUOLAR CHANGE	11	2	10
MINIMAL	10	2	10
MILD	1	0	0
WITHIN NORMAL LIMITS	12	0	11
BRAIN	( 28)	( 2)	( 28)
WITHIN NORMAL LIMITS	28	2	28
CECUM	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
COLON	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
DIAPHRAGM	( 1)	( 0)	( 1)
HEPATODIAPHRAGMATIC NODULE	1	0	1
MINIMAL	1	0	1
DUODENUM	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
EPIDIDYMIS	( 28)	( 2)	( 28)
INFLAMMATION	1	0	0
CHRONIC, MINIMAL	1	0	0
WITHIN NORMAL LIMITS	27	2	28
ESOPHAGUS	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
HEART	( 0)	( 2)	( 0)
INFLAMMATION	0	2	0
CHRONIC, MINIMAL	0	1	0
CHRONIC/ACTIVE, MILD	0	1	0
ILEUM	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
JEJUNUM	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
KIDNEY	( 28)	( 2)	( 28)
CAST, CELLULAR	1	0	0
MINIMAL	1	0	0
DEGENERATION, TUBULAR	0	0	2
MINIMAL	0	0	2

Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males (continued)

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1C

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 5
KIDNEY (continued)			
DILATATION	1	0	0
MILD	1	0	0
DILATATION, TUBULAR	1	0	4
MINIMAL	0	0	4
MILD	1	0	0
FIBROSIS	3	0	5
MINIMAL	3	0	5
INFLAMMATION	13	0	9
CHRONIC, MINIMAL	13	0	9
MINERALIZATION	0	0	2
MINIMAL	0	0	2
REGENERATION, TUBULAR	5	0	8
MINIMAL	5	0	8
WITHIN NORMAL LIMITS	15	2	15
LIVER	( 28)	( 2)	( 28)
INFLAMMATION	8	1	3
CHRONIC, MINIMAL	8	0	3
CHRONIC/ACTIVE, MINIMAL	0	1	0
VACUOLAR CHANGE	9	1	1
MINIMAL	9	1	1
WITHIN NORMAL LIMITS	16	0	24
LUNG	( 0)	( 2)	( 2)
ALVEOLAR MACROPHAGES	0	0	1
MINIMAL	0	0	1
CONGESTION	0	1	0
MINIMAL	0	1	0
INFLAMMATION	0	2	1
CHRONIC, MINIMAL	0	0	1
CHRONIC/ACTIVE, MINIMAL	0	1	0
CHRONIC/ACTIVE, MODERATE	0	1	0
LYMPH NODE	( 0)	( 1)	( 0)
HYPERPLASIA	0	1	0
MILD	0	1	0
MAMMARY GLAND	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
PANCREAS	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
PARATHYROID	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
PERICARDIUM	( 0)	( 1)	( 0)
INFLAMMATION	0	1	0
CHRONIC/ACTIVE, MILD	0	1	0

Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 2



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males (continued)

Table: 1C

PROJECT NUMBER: 3472.4 SPECIES: RAT

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 5
PITUITARY	( 28)	( 2)	( 28)
CYST	2	0	0
MINIMAL	1	0	0
MILD	1	0	0
CYST, CRANIOPHARYNGEAL	0	0	1
MINIMAL	0	0	1
HYPERPLASIA	1	0	4
MINIMAL	1	0	3
MILD	0	0	1
INFLAMMATION	0	0	1
CHRONIC, MINIMAL	0	0	1
WITHIN NORMAL LIMITS	25	2	22
PROSTATE	( 28)	( 2)	( 28)
DILATATION	1	0	0
MINIMAL	1	0	0
EDEMA	1	0	0
MINIMAL	1	0	0
INFLAMMATION	14	0	17
ACUTE, MINIMAL	0	0	1
CHRONIC, MINIMAL	13	0	16
CHRONIC, MILD	1	0	0
SQUAMOUS METAPLASIA	0	0	1
MINIMAL	0	0	1
WITHIN NORMAL LIMITS	14	2	11
SEMINAL VESICLE	( 28)	( 2)	( 28)
INFLAMMATION	0	1	0
CHRONIC, MINIMAL	0	1	0
WITHIN NORMAL LIMITS	28	1	28
SKIN	( 0)	( 2)	( 0)
INFLAMMATION	0	1	0
CHRONIC/ACTIVE, MILD	0	1	0
WITHIN NORMAL LIMITS	0	1	0
SPINAL CORD	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
SPLEEN	( 28)	( 2)	( 28)
HYPERPLASIA	0	1	0
MILD	0	1	0
WITHIN NORMAL LIMITS	28	1	28
STOMACH	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0
TESTIS	( 28)	( 2)	( 28)
DEGENERATION, SEMINIFEROUS TUBULES	0	0	1
MILD	0	0	1

## Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

() = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Males (continued)

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1C

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 2	Group 5
TESTIS (continued)			
DILATATION	1	0	0
MINIMAL	1	0	0
WITHIN NORMAL LIMITS	27	2	27
THYMUS	( 4)	( 2)	( 0)
HEMORRHAGE	4	1	0
MINIMAL	4	0	0
MILD	0	1	0
INFLAMMATION	0	1	0
CHRONIC/ACTIVE, MILD	0	1	0
THYROID	( 0)	( 2)	( 0)
ULTIMOBANCHIAL CYST	0	2	0
MINIMAL	0	2	0
TRACHEA	( 0)	( 2)	( 0)
HEMORRHAGE	0	1	0
MINIMAL	0	1	0
INFLAMMATION	0	1	0
ACUTE, MINIMAL	0	1	0
WITHIN NORMAL LIMITS	0	1	0
URETER	( 1)	( 0)	( 0)
INFLAMMATION	1	0	0
CHRONIC, MINIMAL	1	0	0
URINARY BLADDER	( 0)	( 2)	( 0)
WITHIN NORMAL LIMITS	0	2	0

Titles:

Group 1 0 MG/KG/DAY  
Group 2 1.0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 4

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1D

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 5
	-----	-----
ADRENAL	( 27)	( 28)
DILATATION	15	15
MINIMAL	11	9
MILD	4	6
VACUOLAR CHANGE	1	2
MINIMAL	1	1
MILD	0	1
WITHIN NORMAL LIMITS	11	11
BRAIN	( 27)	( 28)
WITHIN NORMAL LIMITS	27	28
CERVIX	( 22)	( 25)
WITHIN NORMAL LIMITS	22	25
JEJUNUM	( 1)	( 0)
WITHIN NORMAL LIMITS	1	0
KIDNEY	( 27)	( 28)
FIBROSIS	0	1
MINIMAL	0	1
INFARCT, HEALED	2	3
MINIMAL	2	2
MILD	0	1
INFLAMMATION	1	8
ACUTE, MINIMAL	0	1
CHRONIC, MINIMAL	1	7
MINERALIZATION	1	3
MINIMAL	1	3
NEPHROBLASTOMA	0	1
REGENERATION, TUBULAR	0	2
MINIMAL	0	1
MILD	0	1
WITHIN NORMAL LIMITS	24	14
LIVER	( 27)	( 28)
INFLAMMATION	5	3
CHRONIC, MINIMAL	4	3
CHRONIC/ACTIVE, MILD	1	0
VACUOLAR CHANGE	0	1
MILD	0	1
WITHIN NORMAL LIMITS	22	24
LYMPH NODE, MANDIBULAR	( 1)	( 0)
HEMORRHAGE	1	0
MINIMAL	1	0
OVARY	( 27)	( 28)
WITHIN NORMAL LIMITS	27	28

Titles:

Group 1 0 MG/KG/DAY

Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

Microscopic Incidence Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Incidence of Histopathologic Findings for Females (continued)

PROJECT NUMBER: 3472.4 SPECIES: RAT

Table: 1D

Tissue/ Diagnosis/ Modifier(s)	Group 1	Group 5
	-----	-----
OVIDUCT	( 27)	( 28)
CYST	1	0
MINIMAL	1	0
WITHIN NORMAL LIMITS	26	28
PITUITARY	( 27)	( 28)
CYST, CRANIOPHARYNGEAL	1	1
MINIMAL	1	1
WITHIN NORMAL LIMITS	26	27
SKIN	( 1)	( 1)
DILATATION, LYMPHATIC	1	0
MINIMAL	1	0
FIBROSIS	1	0
MILD	1	0
HYPERPLASIA	1	1
MINIMAL	0	1
MILD	1	0
INFLAMMATION	1	0
CHRONIC/ACTIVE, MINIMAL	1	0
SKIN - GLANDULAR ADNEXA	( 1)	( 0)
ECTASIA	1	0
MILD	1	0
SPLEEN	( 27)	( 28)
INFLAMMATION	0	1
CHRONIC/ACTIVE, MINIMAL	0	1
WITHIN NORMAL LIMITS	27	27
UTERUS	( 27)	( 28)
HYPERPLASIA	0	1
MINIMAL	0	1
INFLAMMATION	0	1
ACUTE, MINIMAL	0	1
MINERALIZATION	0	1
MINIMAL	0	1
PIGMENT	22	20
WITHIN NORMAL LIMITS	5	8
VAGINA	( 27)	( 28)
CYST	0	1
MILD	0	1
INFLAMMATION	1	2
ACUTE, MINIMAL	1	1
CHRONIC, MINIMAL	0	1
WITHIN NORMAL LIMITS	26	25

Titles:

Group 1 0 MG/KG/DAY  
Group 5 10.0 MG/KG/DAY

( ) = Number Of Animals Examined For This Tissue

All modifiers are printed.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report  
Individual Macroscopic and Microscopic Observations

Table: 2A

ANIMAL NUMBER: 21621      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-DILATED PELVIS RIGHT
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL (MACROSCOPIC OBSERVATION NOT CONFIRMED)
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PITUITARY	-CYST, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

ANIMAL NUMBER: 21623      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

ANIMAL NUMBER: 21625      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	VACUOLAR CHANGE, MINIMAL -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21630           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL   -DILATATION, MINIMAL  
  EPIDIDYMIS   -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  LIVER   -VACUOLAR CHANGE, MINIMAL  
  PROSTATE   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21636           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS   -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  LIVER   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21638           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  EYE   -REDDENED  
  RIGHT; ENTIRE GLOBE  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL   -VACUOLAR CHANGE, MINIMAL  
  EPIDIDYMIS   -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  EYE   -HEMORRHAGE, MILD  
  (MACROSCOPIC OBSERVATION CONFIRMED)  
  KIDNEY   -INFLAMMATION, CHRONIC, MINIMAL  
  REGENERATION, TUBULAR, MINIMAL  
  FIBROSIS, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
 ANIMAL NUMBER: 21639                    SEX: Male                    GROUP: ( 1)                    0 MG/KG/DAY  
 Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
LIVER	ONE OF PAIR PRESENT
PROSTATE	-VACUOLAR CHANGE, MINIMAL
	-FIBROSIS, MINIMAL
	DILATATION, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21640                    SEX: Male                    GROUP: ( 1)                    0 MG/KG/DAY  
 Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
KIDNEY	ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	REGENERATION, TUBULAR, MINIMAL
	-INFLAMMATION, CHRONIC, MINIMAL
	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21646                    SEX: Male                    GROUP: ( 1)                    0 MG/KG/DAY  
 Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
KIDNEY	ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
	REGENERATION, TUBULAR, MINIMAL
	DILATATION, TUBULAR, MINIMAL
	-INFLAMMATION, CHRONIC, MINIMAL
	VACUOLAR CHANGE, MINIMAL

-----

SPECIES: RAT  
 PROJECT NUMBER: 3472.4                    Groups were selected.

Summarized STAR Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21646                      SEX: Male                      GROUP: ( 1)                      0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
                  PROSTATE    -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21647                      SEX: Male                      GROUP: ( 1)                      0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:    -ALL TISSUES WITHIN NORMAL LIMITS  
  GENERAL COMMENTS  
MICROSCOPIC OBSERVATIONS:    -WITHIN NORMAL LIMITS  
  EPIDIDYMISS    ONE OF PAIR PRESENT  
  
  KIDNEY     -INFLAMMATION, CHRONIC, MINIMAL  
  LIVER     -VACUOLAR CHANGE, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21649                      SEX: Male                      GROUP: ( 1)                      0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:    -ALL TISSUES WITHIN NORMAL LIMITS  
  GENERAL COMMENTS  
MICROSCOPIC OBSERVATIONS:    -WITHIN NORMAL LIMITS  
  EPIDIDYMISS    ONE OF PAIR PRESENT  
  
  LIVER     -VACUOLAR CHANGE, MINIMAL  
  PITUITARY     -CYST, CRANIOPHARYNGEAL, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21652                      SEX: Male                      GROUP: ( 1)                      0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:    -ALL TISSUES WITHIN NORMAL LIMITS  
  GENERAL COMMENTS  
MICROSCOPIC OBSERVATIONS:    -HYPERPLASIA, MINIMAL  
  ADRENAL     -WITHIN NORMAL LIMITS  
  EPIDIDYMISS     ONE OF PAIR PRESENT

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                      Groups were selected.



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21652           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
KIDNEY                           -INFLAMMATION, CHRONIC, MINIMAL  
                                  REGENERATION, TUBULAR, MINIMAL  
LIVER                            -VACUOLAR CHANGE, MINIMAL  
PROSTATE                        -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21656           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                         -DILATATION, MINIMAL  
EPIDIDYMIS                     -WITHIN NORMAL LIMITS  
                                  ONE OF PAIR PRESENT  
KIDNEY                         -INFLAMMATION, CHRONIC, MINIMAL  
                                  REGENERATION, TUBULAR, MINIMAL  
                                  FIBROSIS, MINIMAL  
PROSTATE                        -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21660           SEX: Male           GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                     -WITHIN NORMAL LIMITS  
                                  ONE OF PAIR PRESENT  
LIVER                            -VACUOLAR CHANGE, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21665           SEX: Male           GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21673           SEX: Male           GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21686           SEX: Male           GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
	DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 6



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21709          SEX: Male          GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMISS	-WITHIN NORMAL LIMITS
KIDNEY	-DILATATION, TUBULAR, MINIMAL -REGENERATION, TUBULAR, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21719          SEX: Male          GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMISS	-WITHIN NORMAL LIMITS
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21721          SEX: Male          GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMISS	-WITHIN NORMAL LIMITS
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-MINERALIZATION, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4          Groups were selected.

Summarized STAR Page: 8

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21723           SEX: Male           GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                            -DILATATION, MINIMAL  
  EPIDIDYMIS                         -WITHIN NORMAL LIMITS  
                                      ONE OF PAIR PRESENT  
  KIDNEY                             -REGENERATION, TUBULAR, MINIMAL  
  LIVER                              -VACUOLAR CHANGE, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21729           SEX: Male           GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS                         -WITHIN NORMAL LIMITS  
                                      ONE OF PAIR PRESENT  
  KIDNEY                             -DILATATION, MINIMAL  
                                      MINERALIZATION, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21738           SEX: Male           GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                            -VACUOLAR CHANGE, MINIMAL  
  EPIDIDYMIS                         -WITHIN NORMAL LIMITS  
                                      ONE OF PAIR PRESENT  
  KIDNEY                             -INFLAMMATION, CHRONIC, MINIMAL  
  LIVER                              -VACUOLAR CHANGE, MINIMAL  
  PROSTATE                          -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4          Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

---

ANIMAL NUMBER: 21739            SEX: Male            GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
EXTERNAL APPEARANCE

-HAIRCOAT - DARK MATERIAL  
AROUND NOSE, RED

MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

KIDNEY

-INFLAMMATION, CHRONIC, MINIMAL  
FIBROSIS, MINIMAL

PITUITARY  
PROSTATE

-CYST, CRANIOPHARYNGEAL, MINIMAL  
-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

---

ANIMAL NUMBER: 21761            SEX: Male            GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
SPLEEN

-GRAY AREA(S)  
SUPERIOR SURFACE, ONE, 0.4 X 0.2 CM

MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

SPLEEN

-FIBROSIS, MINIMAL  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; TESTIS.

---

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21657                      SEX: Male                      GROUP: ( 2) 1.0 MG/KG/DAY  
Fate: (Day= 64) FOUND DEAD

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRLOSS

FOREPAWS

MICROSCOPIC OBSERVATIONS:

CECUM

-AUTOLYSIS, MILD

ILEUM

-AUTOLYSIS, MODERATE

JEJUNUM

-AUTOLYSIS, MODERATE

LUNG

-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL

PARATHYROID

-WITHIN NORMAL LIMITS

ONE OF PAIR PRESENT

PITUITARY

-CONGESTION, MINIMAL

PROSTATE

-INFLAMMATION, CHRONIC, MINIMAL

SPLEEN

-HYPERPLASIA, MINIMAL

URINARY BLADDER

-MISIDENTIFIED TISSUE

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; COLON; DUODENUM; EPIDIDYMIS; ESOPHAGUS; HEART; KIDNEY; LIVER; MAMMARY GLAND;  
PANCREAS; SEMINAL VESICLE; SKIN; SPINAL CORD; STOMACH; TESTIS; THYMUS; THYROID; TRACHEA.

-----

SPECIES: RAT

PROJECT NUMBER: 3472.4

Groups were selected.

Summarized STAR Page: 11

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
 ANIMAL NUMBER: 21654      SEX: Male      GROUP: ( 4 ) 5.0 MG/KG/DAY  
 Fate: (Day= 81) FOUND DEAD

## MACROSCOPIC OBSERVATIONS:

ESOPHAGUS	-CONTENT ABNORMAL CONTAINS BLOOD
LARGE INTESTINE	-CONTENT ABNORMAL PORTIONS OF ENTIRE TRACT, REDDISH-BLACK TAR-LIKE MATERIAL
ORO-PHARYNX	-PERFORATION INTUBATION TRAUMA; EXTENDS INTO RIGHT AXILLARY AREA; WITH ASSOCIATED SWELLING AND EDEMA; FOOD IMPACTED INTO AXILLARY MUSCULATURE
SMALL INTESTINE	-CONTENT ABNORMAL ENTIRE TRACT, RED MUCOID MATERIAL AND RED FLUID
STOMACH	-CONTENT ABNORMAL LARGE QUANTITY OF BLOOD

## MICROSCOPIC OBSERVATIONS:

ESOPHAGUS	-INFLAMMATION, CHRONIC/ACTIVE, SEVERE
HEART	-INFLAMMATION, CHRONIC, MINIMAL
LUNG	-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL
PARATHYROID	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL
SPLEEN	-HYPERPLASIA, MILD
THYROID	-INFLAMMATION, CHRONIC, MINIMAL
TRACHEA	-INFLAMMATION, CHRONIC/ACTIVE, MILD

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CECUM; COLON; DUODENUM; EPIDIDYMIS; ILEUM; JEJUNUM; KIDNEY; LIVER;  
 MAMMARY GLAND; PANCREAS; PITUITARY; SEMINAL VESICLE; SKIN; SPINAL CORD; STOMACH; TESTIS; THYMUS;  
 URINARY BLADDER.

-----

SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 12



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21614                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MILD
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21627                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
TESTES	-LESION
	RIGHT; SMALL, 2.2 X 1.2 X 1.0 CM; SOFT;
	DISCOLORED,
	TANNISH-PURPLE
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL
TESTIS	-DEGENERATION, TUBULAR, MODERATE
	(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN.

-----  
ANIMAL NUMBER: 21628                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
CAVITY, ORAL	-INCISOR(S) - BROKEN
	UPPERS
KIDNEY	-CALCULI
	BILATERAL, SEVERAL, PINPOINT
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4                      Groups were selected.

Summarized STAR Page: 13

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
 ANIMAL NUMBER: 21628                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 106) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL (MACROSCOPIC OBSERVATION NOT CONFIRMED)
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21629                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS: GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS: EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21648                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS: GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS: ADRENAL	-VACUOLAR CHANGE, MILD
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-HYPERPLASIA, MINIMAL TRANSITIONAL EPITHELIUM OF PAPILLA
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4                      Groups were selected.

Summarized STAR Page: 14

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21667           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 106) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
LUNG, BRONCHI	-FOCI ALL LOBES, MULTIPLE, PINPOINT, TAN
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL REGENERATION, TUBULAR, MINIMAL DILATATION, TUBULAR, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
LUNG	-INFLAMMATION, CHRONIC, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21670           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21676           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
LUNG, BRONCHI	-FOCI ALL LOBES, MULTIPLE, UP TO 0.2 CM DIAMETER, GRAY, SOME RAISED
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 15

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21676           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

    LUNG   -INFLAMMATION, CHRONIC, MILD  
   (MACROSCOPIC OBSERVATION CONFIRMED)  
    PROSTATE                                   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21683           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    GENERAL COMMENTS                         -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
    ADRENAL                                    -VACUOLAR CHANGE, MINIMAL  
    EPIDIDYMIS                                -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT  
    LIVER                                      -INFLAMMATION, CHRONIC, MINIMAL  
    PROSTATE                                  -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21692           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    LUNG, BRONCHI                            -FOCI  
   ALL LOBES, MULTIPLE, PINPOINT, TAN  
MICROSCOPIC OBSERVATIONS:  
    ADRENAL                                   -VACUOLAR CHANGE, MINIMAL  
    EPIDIDYMIS                                -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT  
    LUNG                                      -INFLAMMATION, CHRONIC, MINIMAL  
   (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4        Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21693                   SEX: Male                   GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                            -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
KIDNEY                                 -INFLAMMATION, CHRONIC, MINIMAL  
LIVER                                  -INFLAMMATION, CHRONIC, MINIMAL  
PROSTATE                              -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21707                   SEX: Male                   GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 107) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                            -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
PROSTATE                              -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21710                   SEX: Male                   GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
LUNG, BRONCHI                        -FOCI  
  ALL LOBES, SEVERAL, UP TO 0.2 CM DIAMETER,  
  GRAY, SOME FIRM  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                            -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
LUNG                                    -INFLAMMATION, CHRONIC, MILD  
  (MACROSCOPIC OBSERVATION CONFIRMED)  
PROSTATE                              -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4               Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21715               SEX: Male               GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                       -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMISS                             -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  PITUITARY                                -CYST, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21716               SEX: Male               GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                       -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMISS                             -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  LIVER                                    -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21720               SEX: Male               GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 108) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                       -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMISS                             -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21724               SEX: Male               GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                       -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                                 -DILATATION, MINIMAL  
-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 18

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21724           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
EPIDIDYMIS                           -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
KIDNEY                                -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21726           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                               -VACUOLAR CHANGE, MINIMAL  
EPIDIDYMIS                           -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21727           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                               -VACUOLAR CHANGE, MINIMAL  
EPIDIDYMIS                           -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
KIDNEY                                -INFLAMMATION, CHRONIC, MINIMAL  
LIVER                                 -INFLAMMATION, CHRONIC, MINIMAL  
PROSTATE                             -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21730           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  LIVER   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21740           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL   -VACUOLAR CHANGE, MINIMAL  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  PROSTATE    -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21745           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
  PROSTATE    -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 20



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
 ANIMAL NUMBER: 21746                 SEX: Male                 GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21752                 SEX: Male                 GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-FIBROSIS, MINIMAL
	REGENERATION, TUBULAR, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 21754                 SEX: Male                 GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

SPECIES: RAT  
 PROJECT NUMBER: 3472.4                 Groups were selected.

Summarized STAR Page: 21

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21756                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
LUNG, BRONCHI	-FOCI ALL LOBES, MULTIPLE, PINPOINT, GRAY, SOME FIRM
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LUNG	-INFLAMMATION, CHRONIC, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
PITUITARY	-HYPERPLASIA, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21758                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 21760                      SEX: Male                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4                      Groups were selected.

Summarized STAR Page: 22

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2A

-----  
ANIMAL NUMBER: 21760           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 110) SCHEDULED EUTHANASIA  
-----

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.  
-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 23

(540)

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 306           SEX: Female   GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
2,4

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

UTERUS

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 311           SEX: Female   GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

KIDNEY

-ADHESION

RIGHT, SMALL AMOUNT OF BURSA ADHERED TO  
CORTICAL SURFACE,  
0.1 CM DIAMETER

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
9,8

MICROSCOPIC OBSERVATIONS:

KIDNEY

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 317           SEX: Female   GROUP: ( 1)   0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRLOSS

LEFT FORELIMB

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
4,10

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4   Groups were selected.

Summarized STAR Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 317                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 321                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
8,7

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 323                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
8,9

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

KIDNEY

-INFLAMMATION, CHRONIC, MINIMAL

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 341                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 107) UNSCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS

-EUTHANIZED FOR CAUSE  
DUE TO EXTREME AGGRESSION

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
4,9

SPECIES: RAT

PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 2

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
 ANIMAL NUMBER: 341                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
 Fate: (Day= 107) UNSCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

MAMMARY GLAND	-HYPERPLASIA, MODERATE
OVIDUCT	-TISSUE NOT PRESENT
SPLEEN	-HYPERPLASIA, LYMPHOID, MILD
THYMUS	-CYST, MINIMAL
UTERUS	-PIGMENT

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CECUM; COLON; DUODENUM; ESOPHAGUS; HEART; ILEUM; JEJUNUM; KIDNEY; LIVER; LUNG;  
 OVARY; PANCREAS; PITUITARY; SPINAL CORD; STOMACH; THYROID/PARATHYROID; TRACHEA; URINARY BLADDER;  
 VAGINA.

-----  
 ANIMAL NUMBER: 345                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 5,9
--------	---

## MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MILD
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 348                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
 Fate: (Day= 115) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 11,3
--------	--

## MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MINIMAL
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 353                  SEX: Female     GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

LUNG, BRONCHI

-FOCI

ALL LOBES; MULTIPLE; PINPOINT; TAN

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
9,7

MICROSCOPIC OBSERVATIONS:

LUNG

-INFLAMMATION, CHRONIC, MILD

(MACROSCOPIC OBSERVATION CONFIRMED)

UTERUS

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 355                  SEX: Female     GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)

10,6

MICROSCOPIC OBSERVATIONS:

PITUITARY

-HYPERTROPHY, MINIMAL

UTERUS

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 369                  SEX: Female     GROUP: ( 1)     0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS

-FAILURE TO DELIVER (25 DAYS) - NO EVIDENCE OF  
MATING

UTERUS

-GRAVID -- AMMONIUM SULFIDE POSITIVE

TWO IMPLANTATION SCARS PRESENT ON RIGHT HORN

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                  Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 371                    SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                            -IMPLANTATION SCARS - (LEFT,RIGHT)  
  0,5

MICROSCOPIC OBSERVATIONS:  
    ADRENAL                            -DILATATION, MINIMAL  
    UTERUS                            -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 380                    SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                            -IMPLANTATION SCARS - (LEFT,RIGHT)  
  6,8

MICROSCOPIC OBSERVATIONS:  
    UTERUS                            -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 383                    SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 109) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    GENERAL COMMENTS                        -FAILURE TO DELIVER (25 DAYS) - NO EVIDENCE OF  
   MATING

    UTERUS                                    -NONGRAVID - AMMONIUM SULFIDE NEGATIVE

MICROSCOPIC OBSERVATIONS:  
    LIVER                                    -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                    Groups were selected.

Summarized STAR Page: 5



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 384                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND NOSE, RED
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 8,5
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MILD
CERVIX	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN
PITUITARY	-HYPERPLASIA, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)
VAGINA	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN.

-----  
ANIMAL NUMBER: 387                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 98) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-NO EVIDENCE OF PARTURITION AFTER 25 DAYS
LUNG, BRONCHI	-DARK RED AREA(S) ALL LOBES; SEVERAL; IRREGULARLY SHAPED
UTERUS	-NONGRAVID - AMMONIUM SULFIDE NEGATIVE
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
LUNG	-ATELECTASIS, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
PITUITARY	-HYPERPLASIA, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; SPLEEN; UTERUS; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                      Groups were selected.

Summarized STAR Page: 6

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
 ANIMAL NUMBER: 388                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND NOSE, RED
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 8,6
MICROSCOPIC OBSERVATIONS:	
PITUITARY	-HYPERPLASIA, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 390                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
DIAPHRAGM	-HERNIA MUSCULO-TENDINOUS PORTION, 0.3 CM DIAMETER, PORTION OF RIGHT LIVER LOBE MISSHAPEN AND EXTENDS INTO THORACIC CAVITY
KIDNEY	-ADHESION RIGHT, SMALL PORTION OF BURSA ADHERED TO CORTICAL SURFACE; 0.1 CM DIAMETER
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 8,8
MICROSCOPIC OBSERVATIONS:	
DIAPHRAGM	-HEPATODIAPHRAGMATIC NODULE, MINIMAL (MACROSCOPIC OBSERVATION CONFIRMED)
KIDNEY	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 7

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 400                   SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

LUNG, BRONCHI

-FOCI

ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER,  
RED

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
7,6

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

LUNG

-INFLAMMATION, CHRONIC, MINIMAL  
(MACROSCOPIC OBSERVATION CONFIRMED)

UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 403                   SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
10,4

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 408                   SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
7,7

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 8

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 420                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
  1,5

MICROSCOPIC OBSERVATIONS:  
  ADRENAL  
  UTERUS

-DILATATION, MILD  
-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 425                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
  7,7

MICROSCOPIC OBSERVATIONS:  
  UTERUS

-WITHIN NORMAL LIMITS  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 426                   SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  THYROID/PARATHYROID

-HEMORRHAGIC AREA(S)  
  LEFT, ONE, 0.5 X 0.3 CM, AREA EXTENDS ONTO  
  TRACHEA,  
  ESOPHAGUS, AND SURROUNDING MUSCULATURE

  UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
  9,8

MICROSCOPIC OBSERVATIONS:  
  KIDNEY  
  THYROID/PARATHYROID

-INFLAMMATION, CHRONIC, MINIMAL  
-HEMORRHAGE, MINIMAL  
  PERIPARATHYROID  
(MACROSCOPIC OBSERVATION CONFIRMED)  
-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

  UTERUS

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 9

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 427                  SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-DILATED PELVIS
	RIGHT
LUNG, BRONCHI	-FOCI
	ALL LOBES, MULTIPLE, PINPOINT, TAN
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	5,9
MICROSCOPIC OBSERVATIONS:	
KIDNEY	-WITHIN NORMAL LIMITS
	(MACROSCOPIC OBSERVATION NOT CONFIRMED)
LUNG	-INFLAMMATION, CHRONIC, MINIMAL
	(MACROSCOPIC OBSERVATION CONFIRMED)
UTERUS	-PIGMENT
	(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 449                  SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	8,7
MICROSCOPIC OBSERVATIONS:	
UTERUS	-PIGMENT
	(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 450                  SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-CYST(S)
	LEFT, CORTICAL SURFACE; ONE; 0.3 CM DIAMETER;
	APPEARS CLEAR
	FLUID FILLED
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	6,10

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 10

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 450                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

ADRENAL	-DILATATION, MILD
KIDNEY	-MINERALIZATION, MINIMAL INFLAMMATION, CHRONIC, MINIMAL CYST, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 628                      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 4,8
--------	---

MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MILD
CERVIX	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)
VAGINA	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 11

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
 ANIMAL NUMBER: 309                      SEX: Female                      GROUP: ( 4) 5.0 MG/KG/DAY  
 Fate: (Day= 92) UNSCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

CARCASS	-PALE
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND RIGHT EYE AND NOSE, RED HAIRCOAT - WET MATTING VENTRAL ABDOMEN AND UROGENITAL AREA, YELLOW
LYMPH NODE, MANDIBULAR	-ENLARGED SEVERAL; UP TO 0.8 X 0.6 X 0.2 CM
LYMPH NODE, MEDIASTINAL	-ENLARGED SEVERAL; UP TO 1.0 X 0.7 X 0.3 CM
SKIN	-SUBCUTANEOUS MASS RIGHT AXILLARY AREA EXTENDING TO RIGHT LATERAL THORAX, SMALL PORTION EXTENDS INTO THORACIC CAVITY AND ATTACHES TO ESOPHAGUS; 5.7 X 3.8 X 2.5 CM; FIRM; MOTTLED RED AND BROWN; CUT SURFACE APPEARS TO CONSIST OF CONNECTIVE TISSUE AND BLOOD CLOTS
SPLEEN	-ENLARGED 6.2 X 1.5 X 0.9 CM -NONGRAVID - AMMONIUM SULFIDE NEGATIVE
UTERUS	
MICROSCOPIC OBSERVATIONS:	
BRAIN	-INFLAMMATION, CHRONIC, MILD
CERVIX	-NOT EXAMINED
ESOPHAGUS	-INFLAMMATION, CHRONIC, MINIMAL
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL
LUNG	-INFLAMMATION, CHRONIC, MINIMAL
LYMPH NODE	-HYPERPLASIA, MODERATE SECTIONS REPRESENT MANDIBULAR AND MEDIASTINAL LYMPH NODES NOTED ON GROSS EXAMINATION (MACROSCOPIC OBSERVATION CONFIRMED)
OVIDUCT	-NOT EXAMINED
PARATHYROID	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
SKIN	-INFLAMMATION, CHRONIC/ACTIVE, SEVERE (MACROSCOPIC OBSERVATION CONFIRMED)
SPLEEN	-HEMATOPOIESIS, EXTRAMEDULLARY, MILD HYPERPLASIA, MODERATE (MACROSCOPIC OBSERVATION CONFIRMED)

-----

SPECIES: RAT  
 PROJECT NUMBER: 3472.4                      Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 309                      SEX: Female      GROUP: ( 4) 5.0 MG/KG/DAY  
Fate: (Day= 92) UNSCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

THYROID	-ULTIMOBANCHIAL CYST, MINIMAL
VAGINA	-TISSUE NOT PRESENT
	TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
ADRENAL; CECUM; COLON; DUODENUM; HEART; ILEUM; JEJUNUM; MAMMARY GLAND; OVARY; PANCREAS;  
PITUITARY; SPINAL CORD; STOMACH; THYMUS; TRACHEA; UTERUS.  
-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 308                      SEX: Female              GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 114) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
    9,7

MICROSCOPIC OBSERVATIONS:  
    UTERUS

-WITHIN NORMAL LIMITS  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 318                      SEX: Female              GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
    4,8

MICROSCOPIC OBSERVATIONS:  
    OVARY

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4              Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 318                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
    UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 319                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    DIAPHRAGM

-THIN AREA(S)  
  INCOMPLETE HERNIATION OF TENDINOUS PORTION,  
  ONE, 0.4 CM  
  DIAMETER, PORTION OF MEDIAL LIVER LOBE  
  MISSHAPEN AND EXTENDS  
  INTO THIN AREA

    EXTERNAL APPEARANCE

-HAIRLOSS  
  VENTRAL ABDOMEN AND THORAX, AND FORELIMBS  
-IMPLANTATION SCARS - (LEFT,RIGHT)  
  6,8

    UTERUS

MICROSCOPIC OBSERVATIONS:  
    ADRENAL  
    DIAPHRAGM

-DILATATION, MINIMAL  
-HEPATODIAPHRAGMATIC NODULE, MINIMAL  
(MACROSCOPIC OBSERVATION CONFIRMED)  
-HYPERPLASIA, MINIMAL  
-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

    PITUITARY

    UTERUS

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 327                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    LUNG, BRONCHI

-FOCI  
  ALL LOBES, MULTIPLE, PINPOINT, TAN AND GRAY,  
  SOME FIRM  
-IMPLANTATION SCARS - (LEFT,RIGHT)  
  5,1

    UTERUS

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 15

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 327                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
LUNG                                   -INFLAMMATION, CHRONIC, MILD  
  (MACROSCOPIC OBSERVATION CONFIRMED)  
UTERUS                                 -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 331                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
LUNG, BRONCHI                         -FOCI  
  ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER,  
  GRAY AND RED  
UTERUS                                 -IMPLANTATION SCARS - (LEFT,RIGHT)  
  6,9  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                                -VACUOLAR CHANGE, MILD  
  W/ MILD HEMORRHAGE  
LUNG                                    -INFLAMMATION, CHRONIC, MINIMAL  
  (MACROSCOPIC OBSERVATION CONFIRMED)  
PITUITARY                              -HYPERTROPHY, MINIMAL  
UTERUS                                 -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 333                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
EXTERNAL APPEARANCE                 -HAIRLOSS  
  FORELIMBS  
UTERUS                                 -IMPLANTATION SCARS - (LEFT,RIGHT)  
  0,10  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                                -DILATATION, MILD  
PITUITARY                              -HYPERPLASIA, MINIMAL  
UTERUS                                 -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4               Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 333                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 336                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 6,9
MICROSCOPIC OBSERVATIONS:	
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL DILATATION, TUBULAR, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 337                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 9,3
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
CERVIX	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)
VAGINA	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 352                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 7,7
MICROSCOPIC OBSERVATIONS:	
LIVER	-INFLAMMATION, CHRONIC, MINIMAL FIBROSIS, MINIMAL
UTERUS	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 358                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
CAVITY, ORAL	-INCISOR(S) - ABSENT UPPER LEFT
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND LEFT EYE; RED
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 7,9
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MILD
PITUITARY	-CYST, CRANIOPHARYNGEAL, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 362                   SEX: Female           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-PITTED LEFT CORTEX; ONE; 0.3 CM DIAMETER
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 0,5
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
CERVIX	-TISSUE NOT PRESENT SECTION DOES NOT INCLUDE CERVIX

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 362                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

KIDNEY	-CYST, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 364                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 7,6
--------	---

MICROSCOPIC OBSERVATIONS:

CERVIX	-TISSUE NOT PRESENT SECTION DOES NOT INCLUDE CERVIX
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 378                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
6,8

MICROSCOPIC OBSERVATIONS:

PITUITARY	-HYPERPLASIA, MILD
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 394                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                           -IMPLANTATION SCARS - (LEFT,RIGHT)  
  7,7

MICROSCOPIC OBSERVATIONS:  
    UTERUS                           -PIGMENT  
   (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 395                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                           -IMPLANTATION SCARS - (LEFT,RIGHT)  
   9,6

MICROSCOPIC OBSERVATIONS:  
    ADRENAL                         -DILATATION, MILD  
    CERVIX                           -TISSUE NOT PRESENT  
   TISSUE NOT FOUND AT TRIM-IN  
    UTERUS                           -PIGMENT  
   (MACROSCOPIC OBSERVATION CONFIRMED)  
    VAGINA                           -TISSUE NOT PRESENT  
   TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
ANIMAL NUMBER: 396                   SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                           -IMPLANTATION SCARS - (LEFT,RIGHT)  
   7,9

MICROSCOPIC OBSERVATIONS:  
    ADRENAL                         -DILATATION, MINIMAL  
    UTERUS                           -PIGMENT  
   (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 399                   SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS: UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 5,9
MICROSCOPIC OBSERVATIONS: ADRENAL KIDNEY UTERUS	-DILATATION, MINIMAL -DILATATION, TUBULAR, MILD -WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 405                   SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS: UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 7,7
MICROSCOPIC OBSERVATIONS: ADRENAL UTERUS	-DILATATION, MINIMAL -PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 415                   SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS: UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 8,8
MICROSCOPIC OBSERVATIONS: ADRENAL UTERUS	-DILATATION, MINIMAL -PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

ANIMAL NUMBER: 434               SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
      UTERUS                                   -IMPLANTATION SCARS - (LEFT,RIGHT)  
  11,8

MICROSCOPIC OBSERVATIONS:  
      ADRENAL                                -DILATATION, MILD  
      UTERUS                                -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

ANIMAL NUMBER: 435               SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
      UTERUS                                   -IMPLANTATION SCARS - (LEFT,RIGHT)  
  9,7

MICROSCOPIC OBSERVATIONS:  
      KIDNEY                                -DILATATION, TUBULAR, MINIMAL  
      UTERUS                                -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

ANIMAL NUMBER: 437               SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
      UTERUS                                   -IMPLANTATION SCARS - (LEFT,RIGHT)  
  8,8

MICROSCOPIC OBSERVATIONS:  
      ADRENAL                                -DILATATION, MILD  
      PITUITARY                             -HYPERPLASIA, MINIMAL  
      UTERUS                                -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

SPECIES: RAT  
PROJECT NUMBER: 3472.4     Groups were selected.

Summarized STAR Page: 22

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
 ANIMAL NUMBER: 438          SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	6,10
MICROSCOPIC OBSERVATIONS:	
KIDNEY	-MINERALIZATION, MINIMAL
	DILATATION, TUBULAR, MINIMAL
PITUITARY	-HYPERPLASIA, MINIMAL
UTERUS	-PIGMENT
	(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 441          SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 117) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	6,10
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MILD
KIDNEY	-DILATATION, TUBULAR, MINIMAL
UTERUS	-PIGMENT
	(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 448          SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 116) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
EXTERNAL APPEARANCE	-PINNA(E) - THICKENED
	BILATERAL; WITH ASSOCIATED REDNESS
	HAIRLOSS
	ABDOMINAL AREA
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT)
	2,2
MICROSCOPIC OBSERVATIONS:	
CERVIX	-TISSUE NOT PRESENT
	SECTION DOES NOT INCLUDE CERVIX
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 23

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

ANIMAL NUMBER: 448                      SEX: Female                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 116) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

PITUITARY	-HYPERPLASIA, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; OVARY; OVIDUCT; SPLEEN; VAGINA.

ANIMAL NUMBER: 452                      SEX: Female                      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 103) FOUND DEAD

## MACROSCOPIC OBSERVATIONS:

BLOOD	-THIN AND WATERY
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND EYES, NOSE, MOUTH AND FORELIMBS, RED
KIDNEY	-TAN AREA(S) CORTICAL SURFACE OF RIGHT KIDNEY, EXTENDS SLIGHTLY INTO CORTEX; ONE; 0.2 CM DIAMETER
LUNG, BRONCHI	-CONSOLIDATED ALL LOBES; SLIGHT; CLEAR COLORLESS FOAMY FLUID EXUDES FROM CUT SURFACES MOTTLED ALL LOBES; DARK RED, RED AND TAN
UTERUS	-IMPLANTATION SCARS - (LEFT,RIGHT) 10,5

## MICROSCOPIC OBSERVATIONS:

BRAIN	-INFLAMMATION, ACUTE, MINIMAL
DUODENUM	-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL
HEART	-INFLAMMATION, ACUTE, MINIMAL
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
LIVER	-LEUKOCYTOSIS, MILD
LUNG	-INFLAMMATION, CHRONIC/ACTIVE, MILD HEMORRHAGE, MINIMAL
MAMMARY GLAND	-TISSUE NOT PRESENT TISSUE NOT FOUND AT TRIM-IN
SPINAL CORD	-INFLAMMATION, ACUTE, MINIMAL
SPLEEN	-HYPERPLASIA, SEVERE
THYMUS	-INVOLUTION, PHYSIOLOGIC
UTERUS	-PIGMENT
VAGINA	-TISSUE NOT PRESENT

SPECIES: RAT  
PROJECT NUMBER: 3472.4                      Groups were selected.

Summarized STAR Page: 24

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2B

-----  
ANIMAL NUMBER: 452                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 103) FOUND DEAD

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
ADRENAL; CECUM; COLON; ESOPHAGUS; ILEUM; JEJUNUM; OVARY; PANCREAS; PITUITARY; STOMACH;  
THYROID/PARATHYROID; TRACHEA; URINARY BLADDER.

-----  
ANIMAL NUMBER: 626                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 115) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
9,4

MICROSCOPIC OBSERVATIONS:

ADRENAL  
CERVIX

-DILATATION, MINIMAL  
-TISSUE NOT PRESENT  
TISSUE NOT FOUND AT TRIM-IN

UTERUS

-WITHIN NORMAL LIMITS  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

VAGINA

-TISSUE NOT PRESENT  
TISSUE NOT FOUND AT TRIM-IN

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
ANIMAL NUMBER: 627                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 114) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS - (LEFT,RIGHT)  
10,3

MICROSCOPIC OBSERVATIONS:

ADRENAL  
UTERUS

-DILATATION, MINIMAL  
-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 25

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 306-01      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 306-02      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
EXTERNAL APPEARANCE	-HAIRCOAT - HAIRLOSS
	FOREPAWS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
LIVER	-VACUOLAR CHANGE, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 311-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-DILATED PELVIS
	RIGHT
THYMUS	-DARK RED
	BOTH LOBES
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
	(MACROSCOPIC OBSERVATION NOT CONFIRMED)
LIVER	-VACUOLAR CHANGE, MINIMAL

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
 ANIMAL NUMBER: 311-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
 THYMUS

-HEMORRHAGE, MINIMAL  
 (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 317-04      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRCOAT - HAIRLOSS  
 FORELIMBS

KIDNEY

-DILATED PELVIS  
 RIGHT

MICROSCOPIC OBSERVATIONS:

ADRENAL  
 EPIDIDYMIS

-VACUOLAR CHANGE, MINIMAL  
 -WITHIN NORMAL LIMITS  
 ONE OF PAIR PRESENT

KIDNEY

-WITHIN NORMAL LIMITS  
 (MACROSCOPIC OBSERVATION NOT CONFIRMED)

LIVER  
 PROSTATE

-INFLAMMATION, CHRONIC, MINIMAL  
 -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 321-01      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

KIDNEY

-PITTED  
 RIGHT, CORTICAL SURFACE; ONE; 0.3 X 0.2 X 0.1  
 CM

MICROSCOPIC OBSERVATIONS:

ADRENAL  
 EPIDIDYMIS

-VACUOLAR CHANGE, MINIMAL  
 -WITHIN NORMAL LIMITS  
 ONE OF PAIR PRESENT

KIDNEY

-INFLAMMATION, CHRONIC, MINIMAL  
 (MACROSCOPIC OBSERVATION NOT CONFIRMED)

PITUITARY  
 PROSTATE

-CYST, MINIMAL  
 -INFLAMMATION, CHRONIC, MINIMAL

SPECIES: RAT

PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 2

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 321-01      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 321-04      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 118) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

THYMUS

-DARK RED  
PORTION OF RIGHT LOBE

## MICROSCOPIC OBSERVATIONS:

ADRENAL  
EPIDIDYMIS

-VACUOLAR CHANGE, MINIMAL  
-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

LIVER

-INFLAMMATION, CHRONIC, MINIMAL  
VACUOLAR CHANGE, MINIMAL

PROSTATE

-INFLAMMATION, CHRONIC, MINIMAL

TESTIS

-DILATATION, MINIMAL

THYMUS

-HEMORRHAGE, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN.

-----  
ANIMAL NUMBER: 323-05      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

LIVER

-TAN AREA(S)  
IN BIFURCATION OF MEDIAL LOBE, ONE, 0.2 CM  
DIAMETER

## MICROSCOPIC OBSERVATIONS:

ADRENAL

-HYPERTROPHY, MINIMAL  
VACUOLAR CHANGE, MILD  
DILATATION, MINIMAL

EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

KIDNEY

-INFLAMMATION, CHRONIC, MINIMAL  
REGENERATION, TUBULAR, MINIMAL

LIVER

-INFLAMMATION, CHRONIC, MINIMAL  
VACUOLAR CHANGE, MINIMAL  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

SPECIES: RAT

PROJECT NUMBER: 3472.4

Groups were selected.

Summarized STAR Page: 3

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 323-05           SEX: Male           GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

    MICROSCOPIC OBSERVATIONS (continued):  
        PROSTATE                         -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 323-06           SEX: Male           GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

    MACROSCOPIC OBSERVATIONS:  
        GENERAL COMMENTS                 -ALL TISSUES WITHIN NORMAL LIMITS  
    MICROSCOPIC OBSERVATIONS:  
        ADRENAL                         -DILATATION, MINIMAL  
        EPIDIDYMIS                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
        PROSTATE                         -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 345-01           SEX: Male           GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

    MACROSCOPIC OBSERVATIONS:  
        EXTERNAL APPEARANCE             -HAIRCOAT - HAIRLOSS  
  FORELIMBS  
    MICROSCOPIC OBSERVATIONS:  
        EPIDIDYMIS                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
        KIDNEY                            -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 348-04           SEX: Male           GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

    MACROSCOPIC OBSERVATIONS:  
        EXTERNAL APPEARANCE             -HAIRCOAT - HAIRLOSS  
  RIGHT FOREPAW  
    MICROSCOPIC OBSERVATIONS:  
        ADRENAL                         -VACUOLAR CHANGE, MINIMAL  
  DILATATION, MINIMAL  
-----



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 348-04      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL REGENERATION, TUBULAR, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 353-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS      -ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:

EPIDIDYMIS	-INFLAMMATION, CHRONIC, MINIMAL ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL FIBROSIS, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL VACUOLAR CHANGE, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MILD

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 355-02      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS      -ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:

EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
LIVER	-INFLAMMATION, CHRONIC, MINIMAL VACUOLAR CHANGE, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 5

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 355-05                   SEX: Male                   GROUP: ( 1)                   0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS   -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS   -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 371-01                   SEX: Male                   GROUP: ( 1)                   0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  KIDNEY    -PITTED  
   LEFT, CORTICAL SURFACE, MULTIPLE, UP TO 0.1  
  CM DIAMETER  
  THYMUS    -FOCI  
   LEFT LOBE, MULTIPLE, UP TO 0.1 CM DIAMETER,  
  RED  
  URINARY BLADDER    -CONTENT ABNORMAL  
  RED FLUID  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL    -VACUOLAR CHANGE, MINIMAL  
  DILATATION, MINIMAL  
  EPIDIDYMIS    -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT  
  KIDNEY    -CAST, CELLULAR, MINIMAL  
  DILATATION, TUBULAR, MILD  
  INFLAMMATION, CHRONIC, MINIMAL  
  FIBROSIS, MINIMAL  
  (MACROSCOPIC OBSERVATION CONFIRMED)  
  LIVER   -INFLAMMATION, CHRONIC, MINIMAL  
  VACUOLAR CHANGE, MINIMAL  
  THYMUS    -HEMORRHAGE, MINIMAL  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                   Groups were selected.

Summarized STAR Page: 6

(571)

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 380-04          SEX: Male          GROUP: ( 1)          0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 384-05          SEX: Male          GROUP: ( 1)          0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
EXTERNAL APPEARANCE	-HAIRCOAT - HAIRLOSS
	FORELIMBS
KIDNEY	-DILATED PELVIS
	LEFT
	CALCULI
	LEFT, MULTIPLE, PINPOINT, WHITE
URETER	-DISTENDED
	LEFT
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
	REGENERATION, TUBULAR, MINIMAL
	DILATATION, MILD
	(MACROSCOPIC OBSERVATION CONFIRMED)
LIVER	-VACUOLAR CHANGE, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL
URETER	-INFLAMMATION, CHRONIC, MINIMAL
	(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4          Groups were selected.

Summarized STAR Page: 7

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 388-03      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-DILATATION, MINIMAL
	-WITHIN NORMAL LIMITS
KIDNEY	-ONE OF PAIR PRESENT
	-INFLAMMATION, CHRONIC, MINIMAL
	-REGENERATION, TUBULAR, MINIMAL
	-FIBROSIS, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 390-04      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	-ONE OF PAIR PRESENT
LIVER	-VACUOLAR CHANGE, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 400-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS
	-ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 8

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
 ANIMAL NUMBER: 403-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 KIDNEY

-DILATED PELVIS  
 RIGHT

MICROSCOPIC OBSERVATIONS:  
 EPIDIDYMIS

-WITHIN NORMAL LIMITS  
 ONE OF PAIR PRESENT  
 -INFLAMMATION, CHRONIC, MINIMAL

KIDNEY

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 408-03      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 GENERAL COMMENTS

-ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:  
 EPIDIDYMIS

-WITHIN NORMAL LIMITS  
 ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 420-02      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 GENERAL COMMENTS

-ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:  
 EPIDIDYMIS

-WITHIN NORMAL LIMITS  
 ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 425-07      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 GENERAL COMMENTS

-ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:  
 ADRENAL

-DILATATION, MILD

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 9

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 425-07      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL REGENERATION, TUBULAR, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 426-05      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

DIAPHRAGM	-THIN AREA(S) INCOMPLETE HERNIATION OF MUSCULO-TENDINOUS PORTION; 0.6 X 0.4 CM; PORTION OF SUPERIOR SURFACE OF MEDIAL LIVER LOBE MISSHAPEN AND EXTENDS INTO THIN AREA
EXTERNAL APPEARANCE	-HAIRCOAT - HAIRLOSS FOREPAWS

## MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MILD
DIAPHRAGM	-HEPATODIAPHRAGMATIC NODULE, MINIMAL (MACROSCOPIC OBSERVATION CONFIRMED)
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
PITUITARY	-HYPERPLASIA, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 427-02      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

THYMUS	-FOCI BOTH LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, RED
--------	--

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 10

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 427-02      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

ADRENAL	-DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL
THYMUS	-HEMORRHAGE, MINIMAL (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 449-05      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

LIVER	-TAN AREA(S) BIFURCATION OF MEDIAL LOBE; ONE; 0.4 X 0.2 CM
-------	---

MICROSCOPIC OBSERVATIONS:

EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
LIVER	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 450-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

KIDNEY	-DILATED PELVIS RIGHT
URINARY BLADDER	-CONTENT ABNORMAL BROWN FLUID

MICROSCOPIC OBSERVATIONS:

ADRENAL	-VACUOLAR CHANGE, MINIMAL DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL (MACROSCOPIC OBSERVATION NOT CONFIRMED)
PITUITARY	-CYST, MILD

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 11

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 450-06      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
PROSTATE      -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 628-04      SEX: Male      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
KIDNEY      -PITTED  
BILATERAL, CORTICAL SURFACE; THREE; EACH 0.1  
CM DIAMETER

MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS      -WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

KIDNEY      -WITHIN NORMAL LIMITS  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

PROSTATE      -INFLAMMATION, CHRONIC, MINIMAL  
EDEMA, MINIMAL  
DILATATION, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 12



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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 354-05      SEX: Male      GROUP: ( 2) 1.0 MG/KG/DAY  
Fate: (Day= 108) FOUND DEAD

MACROSCOPIC OBSERVATIONS:

THYMUS      -DARK RED  
                      BOTH LOBES

MICROSCOPIC OBSERVATIONS:

ADRENAL      -VACUOLAR CHANGE, MINIMAL  
HEART      -INFLAMMATION, CHRONIC, MINIMAL  
LIVER      -VACUOLAR CHANGE, MINIMAL  
LUNG      -CONGESTION, MINIMAL  
                      INFLAMMATION, CHRONIC/ACTIVE, MINIMAL  
PARATHYROID      -WITHIN NORMAL LIMITS  
                      ONE OF PAIR PRESENT  
THYMUS      -HEMORRHAGE, MILD  
                      (MACROSCOPIC OBSERVATION CONFIRMED)  
THYROID      -ULTIMOBANCHIAL CYST, MINIMAL  
TRACHEA      -HEMORRHAGE, MINIMAL  
                      INFLAMMATION, ACUTE, MINIMAL

The following tissues were found to be within normal limits:

BRAIN; CECUM; COLON; DUODENUM; EPIDIDYMIS; ESOPHAGUS; ILEUM; JEJUNUM; KIDNEY; MAMMARY GLAND;  
PANCREAS; PITUITARY; PROSTATE; SEMINAL VESICLE; SKIN; SPINAL CORD; SPLEEN; STOMACH; TESTIS;  
URINARY BLADDER.

-----  
ANIMAL NUMBER: 423-03      SEX: Male      GROUP: ( 2) 1.0 MG/KG/DAY  
Fate: (Day= 69) FOUND DEAD

MACROSCOPIC OBSERVATIONS:

CAVITY, ABDOMINAL      -ADHESION  
                                  INVOLVING BODY WALL, XIPHOID PROCESS, LIVER,  
                                  STOMACH,  
                                  ADIPOSE TISSUE, SPLEEN AND DIAPHRAGM  
CAVITY, THORACIC      -FLUID CONTENTS  
                                  APPROXIMATELY 1 ML OF RED FLUID

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 13

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 423-03      SEX: Male      GROUP: ( 2 ) 1.0 MG/KG/DAY  
Fate: (Day= 69) FOUND DEAD

MACROSCOPIC OBSERVATIONS (continued):

DUODENUM (continued)	-CONTENT ABNORMAL
DUODENUM	-DARK RED SOLID MATERIAL MUCOSA REDDENED
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND NOSE AND MOUTH, RED
HEART	-PERICARDIUM - THICKENED
JEJUNUM	-CONTENT ABNORMAL DARK RED SOLID MATERIAL AND RED MUCOID MATERIAL MUCOSA REDDENED
LUNG, BRONCHI	-ADHESION INVOLVING RIGHT LUNG LOBES, DIAPHRAGM AND PERICARDIUM; WITH ASSOCIATED FIBROUS MATERIAL ADHERED TO SUPERIOR SURFACE OF RIGHT LUNG LOBES, TAN-YELLOW; RIGHT LUNG LOBES DISCOLORED, DARK RED AND LIGHT RED
LYMPH NODE, MEDIASTINAL	-REDDENED FEW ENLARGED FEW, UP TO 0.5 X 0.4 X 0.1 CM
SKIN	-SUBCUTANEOUS NODULE VENTRAL ABDOMEN, ONE, 0.7 X 0.5 X 0.1 CM, TAN, WITH TAN CASEOUS CONTENTS
STOMACH	-CONTENT ABNORMAL DARK RED SOLID MATERIAL AND RED FLUID MUCOSA REDDENED
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
DUODENUM	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
HEART	-INFLAMMATION, CHRONIC/ACTIVE, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
JEJUNUM	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
LIVER	-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL
LUNG	-INFLAMMATION, CHRONIC/ACTIVE, MODERATE (MACROSCOPIC OBSERVATION CONFIRMED)
LYMPH NODE	-HYPERPLASIA, MILD (MACROSCOPIC OBSERVATION CONFIRMED)

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 423-03      SEX: Male      GROUP: ( 2) 1.0 MG/KG/DAY  
Fate: (Day= 69) FOUND DEAD

MICROSCOPIC OBSERVATIONS (continued):

PERICARDIUM	-INFLAMMATION, CHRONIC/ACTIVE, MILD
SEMINAL VESICLE	-INFLAMMATION, CHRONIC, MINIMAL
SKIN	-INFLAMMATION, CHRONIC/ACTIVE, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
SPLEEN	-HYPERPLASIA, MILD
STOMACH	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
THYMUS	-INFLAMMATION, CHRONIC/ACTIVE, MILD
THYROID	-ULTIMOBRANCHIAL CYST, MINIMAL

The following tissues were found to be within normal limits:

BRAIN; CECUM; COLON; EPIDIDYMIS; ESOPHAGUS; ILEUM; KIDNEY; MAMMARY GLAND; PANCREAS; PARATHYROID;  
PITUITARY; PROSTATE; SPINAL CORD; TESTIS; TRACHEA; URINARY BLADDER.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 15

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 20

-----  
 ANIMAL NUMBER: 308-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
CAVITY, ORAL	-MALALIGNMENT UPPERS
EXTERNAL APPEARANCE	-PINNA(E) - THICKENED BILATERAL HAIRCOAT - DARK MATERIAL AROUND EYES, RED
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL REGENERATION, TUBULAR, MINIMAL DILATATION, TUBULAR, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 318-03      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-DILATATION, TUBULAR, MINIMAL FIBROSIS, MINIMAL REGENERATION, TUBULAR, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 16

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
 ANIMAL NUMBER: 319-07      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 GENERAL COMMENTS                                 -ALL TISSUES WITHIN NORMAL LIMITS  
 MICROSCOPIC OBSERVATIONS:  
 ADRENAL    -DILATATION, MINIMAL  
 EPIDIDYMISS   -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
 BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 327-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 CAVITY, ORAL   -INCISOR(S) - ABSENT  
    LEFT UPPER  
 MICROSCOPIC OBSERVATIONS:  
 ADRENAL    -VACUOLAR CHANGE, MINIMAL  
 EPIDIDYMISS   -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT  
 PROSTATE   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 331-06      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
 GENERAL COMMENTS                                 -ALL TISSUES WITHIN NORMAL LIMITS  
 MICROSCOPIC OBSERVATIONS:  
 ADRENAL    -VACUOLAR CHANGE, MINIMAL  
 EPIDIDYMISS   -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
 BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 17

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
 ANIMAL NUMBER: 333-04      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 118) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
     GENERAL COMMENTS   -ALL TISSUES WITHIN NORMAL LIMITS  
 MICROSCOPIC OBSERVATIONS:  
     ADRENAL   -DILATATION, MINIMAL  
     EPIDIDYMIS   -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT  
     PROSTATE   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 336-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
     GENERAL COMMENTS   -ALL TISSUES WITHIN NORMAL LIMITS  
 MICROSCOPIC OBSERVATIONS:  
     ADRENAL   -VACUOLAR CHANGE, MINIMAL  
     EPIDIDYMIS   -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT  
     KIDNEY   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 337-04      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
     GENERAL COMMENTS   -ALL TISSUES WITHIN NORMAL LIMITS  
 MICROSCOPIC OBSERVATIONS:  
     EPIDIDYMIS   -WITHIN NORMAL LIMITS  
   ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 18

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 352-08           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-DILATED PELVIS RIGHT
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
PITUITARY	-HYPERPLASIA, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 358-04           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL REGENERATION, TUBULAR, MINIMAL
PITUITARY	-HYPERPLASIA, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 362-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 19

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 364-03            SEX: Male            GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 119) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                                -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL    -VACUOLAR CHANGE, MINIMAL  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 378-08            SEX: Male            GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                                -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT  
  KIDNEY     -MINERALIZATION, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 394-05            SEX: Male            GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  GENERAL COMMENTS                                -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
  EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
    ONE OF PAIR PRESENT  
  PROSTATE     -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4            Groups were selected.

Summarized STAR Page: 20



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
 ANIMAL NUMBER: 395-06      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
LUNG, BRONCHI	-DARK RED AREA(S) ALL LOBES; SEVERAL; IRREGULARLY SHAPED
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-REGENERATION, TUBULAR, MINIMAL FIBROSIS, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
LUNG	-INFLAMMATION, CHRONIC, MINIMAL (MACROSCOPIC OBSERVATION NOT CONFIRMED)
PITUITARY	-HYPERPLASIA, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:

BRAIN; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 ANIMAL NUMBER: 396-01      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
CAVITY, ORAL	-MALALIGNMENT UPPERS AND LOWERS
EXTERNAL APPEARANCE	-HAIRCOAT - DARK MATERIAL AROUND EYES, RED
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-HYPERPLASIA, MINIMAL DILATATION, MILD
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:

BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 21

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 399-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
DIAPHRAGM

-THIN AREA(S)  
MUSCULO-TENDINOUS PORTION; TWO; 1.0 X 0.7 CM  
AND 0.3 X 0.2  
CM; PORTIONS OF SUPERIOR SURFACE OF MEDIAL  
LIVER LOBE  
MISSHAPEN AND EXTEND INTO THIN AREAS

MICROSCOPIC OBSERVATIONS:  
DIAPHRAGM

-HEPATODIAPHRAGMATIC NODULE, MINIMAL  
(MACROSCOPIC OBSERVATION CONFIRMED)

EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

KIDNEY

-INFLAMMATION, CHRONIC, MINIMAL

LIVER

-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 405-05           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 120) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS

-ALL TISSUES WITHIN NORMAL LIMITS

MICROSCOPIC OBSERVATIONS:

ADRENAL

-VACUOLAR CHANGE, MINIMAL

EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

PROSTATE

-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 415-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
LUNG, BRONCHI

-FOCI  
ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER,  
TAN

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MINIMAL

EPIDIDYMIS

-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 22

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 415-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):  
KIDNEY                           -INFLAMMATION, CHRONIC, MINIMAL  
                                  REGENERATION, TUBULAR, MINIMAL  
                                  FIBROSIS, MINIMAL  
LUNG                             -ALVEOLAR MACROPHAGES, MINIMAL  
                                  (MACROSCOPIC OBSERVATION CONFIRMED)  
PITUITARY                       -INFLAMMATION, CHRONIC, MINIMAL  
PROSTATE                       -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 434-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                       -WITHIN NORMAL LIMITS  
                                  ONE OF PAIR PRESENT  
KIDNEY                           -INFLAMMATION, CHRONIC, MINIMAL  
                                  REGENERATION, TUBULAR, MINIMAL  
PITUITARY                       -CYST, CRANIOPHARYNGEAL, MINIMAL  
PROSTATE                       -INFLAMMATION, ACUTE, MINIMAL  
                                  SQUAMOUS METAPLASIA, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 435-03           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
ADRENAL                          -VACUOLAR CHANGE, MINIMAL  
                                  DILATATION, MINIMAL  
EPIDIDYMIS                       -WITHIN NORMAL LIMITS  
                                  ONE OF PAIR PRESENT  
LIVER                            -VACUOLAR CHANGE, MINIMAL  
PROSTATE                       -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 23

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 437-03           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
ADRENAL    -DILATATION, MINIMAL  
EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
PROSTATE   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 437-05           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
KIDNEY    -INFLAMMATION, CHRONIC, MINIMAL  
PROSTATE   -INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 438-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 121) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
GENERAL COMMENTS                               -ALL TISSUES WITHIN NORMAL LIMITS  
MICROSCOPIC OBSERVATIONS:  
EPIDIDYMIS                                        -WITHIN NORMAL LIMITS  
  ONE OF PAIR PRESENT  
KIDNEY    -INFLAMMATION, CHRONIC, MINIMAL  
  MINERALIZATION, MINIMAL  
PITUITARY   -HYPERPLASIA, MILD

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 441-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
KIDNEY	-DILATED PELVIS RIGHT
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-VACUOLAR CHANGE, MINIMAL DILATATION, MILD
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 448-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
STOMACH	-CONTENT ABNORMAL SMALL AMOUNT OF WHITE CREAMY MATERIAL
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL DEGENERATION, TUBULAR, MINIMAL REGENERATION, TUBULAR, MINIMAL DILATATION, TUBULAR, MINIMAL FIBROSIS, MINIMAL
PROSTATE	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 626-02      SEX: Male      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-ALL TISSUES WITHIN NORMAL LIMITS
MICROSCOPIC OBSERVATIONS:	
EPIDIDYMIS	-WITHIN NORMAL LIMITS ONE OF PAIR PRESENT

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 25

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2C

-----  
ANIMAL NUMBER: 626-02           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; PITUITARY; PROSTATE; SEMINAL VESICLE; SPLEEN; TESTIS.

-----  
ANIMAL NUMBER: 627-07           SEX: Male           GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 122) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRCOAT - HAIRLOSS  
FOREPAWS

MICROSCOPIC OBSERVATIONS:

ADRENAL  
EPIDIDYMIS

-VACUOLAR CHANGE, MINIMAL  
-WITHIN NORMAL LIMITS  
ONE OF PAIR PRESENT

KIDNEY

-DEGENERATION, TUBULAR, MINIMAL  
REGENERATION, TUBULAR, MINIMAL  
DILATATION, TUBULAR, MINIMAL  
FIBROSIS, MINIMAL

PROSTATE  
TESTIS

-INFLAMMATION, CHRONIC, MINIMAL  
-DEGENERATION, SEMINIFEROUS TUBULES, MILD

The following tissues were found to be within normal limits:  
BRAIN; LIVER; PITUITARY; SEMINAL VESICLE; SPLEEN.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 26

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 306-05       SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
EXTERNAL APPEARANCE                   -HAIRCOAT - HAIRLOSS  
  FOREPAWS  
UTERUS                                   -IMPLANTATION SCARS (LEFT,RIGHT)  
  5,10

MICROSCOPIC OBSERVATIONS:  
KIDNEY                                   -INFARCT, HEALED, MINIMAL  
LIVER                                    -INFLAMMATION, CHRONIC, MINIMAL  
UTERUS                                   -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 311-13       SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
UTERUS                                   -IMPLANTATION SCARS (LEFT,RIGHT)  
  8,8

MICROSCOPIC OBSERVATIONS:  
UTERUS                                   -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 317-13       SEX: Female       GROUP: ( 1)       0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
UTERUS                                   -IMPLANTATION SCARS (LEFT,RIGHT)  
  8,5

MICROSCOPIC OBSERVATIONS:  
ADRENAL                                   -DILATATION, MILD  
CERVIX                                   -TISSUE NOT PRESENT  
LIVER                                    -INFLAMMATION, CHRONIC, MINIMAL  
PITUITARY                               -CYST, CRANIOPHARYNGEAL, MINIMAL  
UTERUS                                   -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; OVARY; OVIDUCT; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 1

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 321-10      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
                    0,10

MICROSCOPIC OBSERVATIONS:  
    ADRENAL      -DILATATION, MINIMAL  
    UTERUS      -PIGMENT  
                    (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 323-12      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
                    5,9

MICROSCOPIC OBSERVATIONS:  
    CERVIX      -TISSUE NOT PRESENT  
    UTERUS      -PIGMENT  
                    (MACROSCOPIC OBSERVATION CONFIRMED)

VAGINA      -INFLAMMATION, ACUTE, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
ANIMAL NUMBER: 345-05      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    SPLEEN      -GREY AREA(S)  
                    CAPSULAR SURFACE; MULTIPLE; UP TO 0.4 CM  
                    DIAMETER

    UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
                    7,8

MICROSCOPIC OBSERVATIONS:  
    CERVIX      -TISSUE NOT PRESENT  
    SPLEEN      -WITHIN NORMAL LIMITS  
                    (MACROSCOPIC OBSERVATION NOT CONFIRMED)

    UTERUS      -PIGMENT  
                    (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 2





AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 353-11        SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 355-13        SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS                                -IMPLANTATION SCARS (LEFT,RIGHT)  
    8,8

MICROSCOPIC OBSERVATIONS:

CERVIX                                -TISSUE NOT PRESENT  
UTERUS                                -PIGMENT  
    (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 371-03        SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE                -SWOLLEN TEAT(S)  
    RIGHT INGUINAL AREA, ONE, REDDENED  
UTERUS                                -IMPLANTATION SCARS (LEFT,RIGHT)  
    6,8

MICROSCOPIC OBSERVATIONS:

ADRENAL                               -DILATATION, MINIMAL  
SKIN                                    -INFLAMMATION, CHRONIC/ACTIVE, MINIMAL  
    FIBROSIS, MILD  
    DILATATION, LYMPHATIC, MINIMAL  
    HYPERPLASIA, MILD  
    (MACROSCOPIC OBSERVATION CONFIRMED)  
UTERUS                                -PIGMENT  
    (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4        Groups were selected.

Summarized STAR Page: 4

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

ANIMAL NUMBER: 380-09      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
OVIDUCT	-CYST(S) RIGHT; ONE; 0.3 CM DIAMETER; CLEAR FLUID FILLED
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 6,10
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
OVIDUCT	-CYST, MINIMAL (MACROSCOPIC OBSERVATION CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; PITUITARY; SPLEEN; VAGINA.

ANIMAL NUMBER: 384-13      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 7,6
KIDNEY	-RIGHT, DILATED PELVIS, MODERATE
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
KIDNEY	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

ANIMAL NUMBER: 388-13      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 7,8
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

(596)

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 388-13      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 390-09      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRCOAT - HAIRLOSS

FOREPAWS

JEJUNUM

-REDDENED

PORTIONS

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)

11,5

MICROSCOPIC OBSERVATIONS:

JEJUNUM

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 390-11      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 143) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)

0,9

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 6

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 400-10           SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS                           -IMPLANTATION SCARS (LEFT,RIGHT)  
                                  11,8

MICROSCOPIC OBSERVATIONS:  
  ADRENAL                         -DILATATION, MINIMAL  
  UTERUS                         -PIGMENT  
                                  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 403-12           SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  EXTERNAL APPEARANCE           -HAIRCOAT - HAIRLOSS  
                                  FOREPAWS

  UTERUS                           -IMPLANTATION SCARS (LEFT,RIGHT)  
                                  6,7

MICROSCOPIC OBSERVATIONS:  
  ADRENAL                         -DILATATION, MINIMAL  
  UTERUS                         -PIGMENT  
                                  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 408-12           SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS                           -IMPLANTATION SCARS (LEFT,RIGHT)  
                                  7,9

MICROSCOPIC OBSERVATIONS:  
  ADRENAL                         -DILATATION, MINIMAL  
  KIDNEY                         -INFLAMMATION, CHRONIC, MINIMAL  
  UTERUS                         -PIGMENT  
                                  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 7

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
 ANIMAL NUMBER: 420-05      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 124) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS

-FAILURE TO DELIVER (25 DAYS) - NO EVIDENCE OF MATING

UTERUS

-NON GRAVID -- AMMONIUM SULFIDE NEGATIVE

## MICROSCOPIC OBSERVATIONS:

LIVER

-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
 ANIMAL NUMBER: 425-13      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 10) FOUND DEAD

## MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS

-DEAD DUE TO ACCIDENTAL INJURY  
 UNABLE TO EXAMINE PORTIONS OF INTESTINAL TRACT DUE TO CANNIBALIZATION

SKIN - SUBCUTANEOUS

-HEMORRHAGE  
 MAJOR PORTIONS OF RIGHT HINDLIMB WITH ASSOCIATED EDEMA

## MICROSCOPIC OBSERVATIONS:

GENERAL COMMENTS

-SEVERE CANNIBALIZATION, TISSUES NOT COLLECTED

-----  
 ANIMAL NUMBER: 426-14      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 129) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-HAIRCOAT - HAIRLOSS  
 FORELIMBS

LIVER

-PALE AREA(S)  
 TRANSVERSE ACROSS SUPERIOR SURFACE OF MEDIAL LOBE; 3.5 X 0.3 CM; SLIGHTLY YELLOW IN COLOR  
 FOCI  
 SUPERIOR SURFACE OF LEFT LOBE; ONE; 0.2 X 0.1 CM; LIGHT RED

OVARY

-CYST(S)  
 LEFT; ONE; 0.2 CM DIAMETER; CLEAR FLUID FILLED

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
 5,9

SPECIES: RAT

PROJECT NUMBER: 3472.4

Groups were selected.

Summarized STAR Page: 8

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 426-14      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

LIVER	-INFLAMMATION, CHRONIC/ACTIVE, MILD
OVARY	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 427-14      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 8,7
--------	---

MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MILD
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 449-11      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 111) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS	-GESTATION DAY 25
UTERUS	-NON GRAVID -- AMMONIUM SULFIDE NEGATIVE

MICROSCOPIC OBSERVATIONS:

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
ANIMAL NUMBER: 449-12      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 9,7
--------	---

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 9

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
 ANIMAL NUMBER: 449-12      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 129) SCHEDULED EUTHANASIA

## MICROSCOPIC OBSERVATIONS (continued):

ADRENAL	-DILATATION, MILD
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 450-13      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 124) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

GENERAL COMMENTS	-FAILURE TO DELIVER (25 DAYS) - NO EVIDENCE OF MATING
UTERUS	-NON GRAVID -- AMMONIUM SULFIDE NEGATIVE

## MICROSCOPIC OBSERVATIONS:

KIDNEY	-INFARCT, HEALED, MINIMAL MINERALIZATION, MINIMAL
--------	--

The following tissues were found to be within normal limits:  
 ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
 ANIMAL NUMBER: 628-07      SEX: Female      GROUP: ( 1)      0 MG/KG/DAY  
 Fate: (Day= 131) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

SKIN	-NODULE(S) THIRD DIGIT ON RIGHT FOREPAW, ONE, 0.2 CM DIAMETER, WHITE, FIRM
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 8,6

## MICROSCOPIC OBSERVATIONS:

ADRENAL	-VACUOLAR CHANGE, MINIMAL
SKIN - GLANDULAR ADNEXA	-ECTASIA, MILD (MACROSCOPIC OBSERVATION CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 10



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
 ANIMAL NUMBER: 628-12           SEX: Female    GROUP: ( 1)    0 MG/KG/DAY  
 Fate: (Day= 129) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
8,9

## MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 308-14           SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 129) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
6,8

## MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MINIMAL

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 318-04           SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 131) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
0,12

## MICROSCOPIC OBSERVATIONS:

LIVER

-VACUOLAR CHANGE, MILD

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

VAGINA

-INFLAMMATION, ACUTE, MINIMAL

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; KIDNEY; OVARY; OVIDUCT; PITUITARY; SPLEEN.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 11

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 318-10      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
7,9  
MICROSCOPIC OBSERVATIONS:  
KIDNEY      -INFARCT, HEALED, MINIMAL  
LIVER      -INFLAMMATION, CHRONIC, MINIMAL  
UTERUS      -PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 319-10      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
EXTERNAL APPEARANCE      -HAIRCOAT - HAIRLOSS  
FOREPAWS  
UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
8,7  
MICROSCOPIC OBSERVATIONS:  
ADRENAL      -DILATATION, MILD  
UTERUS      -PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 327-04      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
EXTERNAL APPEARANCE      -PINNA(E) - THICKENED  
BILATERAL  
LIVER      -TAN AREA(S)  
IN BIFURCATION OF MEDIAL LOBE, ONE, 0.2 X 0.1  
CM  
UTERUS      -IMPLANTATION SCARS (LEFT,RIGHT)  
6,10  
MICROSCOPIC OBSERVATIONS:  
ADRENAL      -DILATATION, MINIMAL  
KIDNEY      -INFLAMMATION, CHRONIC, MINIMAL

SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 12

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 327-04           SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MICROSCOPIC OBSERVATIONS (continued):

LIVER	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.  
-----

ANIMAL NUMBER: 331-08           SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

KIDNEY	-DILATED PELVIS RIGHT
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 5,0

MICROSCOPIC OBSERVATIONS:

ADRENAL	-DILATATION, MINIMAL
KIDNEY	-REGENERATION, TUBULAR, MINIMAL FIBROSIS, MINIMAL INFLAMMATION, CHRONIC, MINIMAL (MACROSCOPIC OBSERVATION NOT CONFIRMED)
UTERUS	-WITHIN NORMAL LIMITS (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.  
-----

ANIMAL NUMBER: 333-06           SEX: Female     GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 10,8
--------	--

MICROSCOPIC OBSERVATIONS:

ADRENAL	-VACUOLAR CHANGE, MINIMAL
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)
VAGINA	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:

BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN.  
-----

SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 13

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 336-08           SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS                              -IMPLANTATION SCARS (LEFT,RIGHT)  
  8,7

MICROSCOPIC OBSERVATIONS:  
    UTERUS                              -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 337-07           SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    EXTERNAL APPEARANCE                -HAIRCOT - HAIRLOSS  
  LEFT FORELIMB

    UTERUS                              -IMPLANTATION SCARS (LEFT,RIGHT)  
  6,8

MICROSCOPIC OBSERVATIONS:  
    ADRENAL                             -VACUOLAR CHANGE, MILD  
    CERVIX                               -TISSUE NOT PRESENT  
    UTERUS                               -PIGMENT  
  MINERALIZATION, MINIMAL  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 352-12           SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 124) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    GENERAL COMMENTS                    -FAILURE TO DELIVER (25 DAYS) - NO EVIDENCE OF  
  MATING

    UTERUS                               -NON GRAVID -- AMMONIUM SULFIDE NEGATIVE

MICROSCOPIC OBSERVATIONS:  
    KIDNEY                               -INFLAMMATION, ACUTE, MINIMAL  
    PITUITARY                           -CYST, CRANIOPHARYNGEAL, MINIMAL

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; SPLEEN; UTERUS; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 14

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
 ANIMAL NUMBER: 358-09      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 5,8
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MILD
KIDNEY	-INFLAMMATION, CHRONIC, MINIMAL MINERALIZATION, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
 ANIMAL NUMBER: 362-04      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 112) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
GENERAL COMMENTS	-GESTATION DAY 25
UTERUS	-NON GRAVID -- AMMONIUM SULFIDE NEGATIVE
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MINIMAL
KIDNEY	-MINERALIZATION, MINIMAL
LIVER	-INFLAMMATION, CHRONIC, MINIMAL

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
 ANIMAL NUMBER: 364-13      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:	
UTERUS	-IMPLANTATION SCARS (LEFT,RIGHT) 10,8
MICROSCOPIC OBSERVATIONS:	
ADRENAL	-DILATATION, MILD
KIDNEY	-INFARCT, HEALED, MILD
SPLEEN	-INFLAMMATION, CHRONIC/ACTIVE, MINIMAL
UTERUS	-PIGMENT (MACROSCOPIC OBSERVATION CONFIRMED)
VAGINA	-CYST, MILD

The following tissues were found to be within normal limits:  
 BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY.

-----  
 SPECIES: RAT  
 PROJECT NUMBER: 3472.4      Groups were selected.

Summarized STAR Page: 15

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 378-10           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
6,9

MICROSCOPIC OBSERVATIONS:

KIDNEY  
UTERUS

-INFLAMMATION, CHRONIC, MINIMAL  
-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 394-11           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
6,9

MICROSCOPIC OBSERVATIONS:

UTERUS

-WITHIN NORMAL LIMITS  
(MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 395-15           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
6,1

MICROSCOPIC OBSERVATIONS:

UTERUS

-PIGMENT  
(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

Summarized STAR Page: 16

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 396-16           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 132) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS   -IMPLANTATION SCARS (LEFT,RIGHT)  
  9,8

MICROSCOPIC OBSERVATIONS:  
    UTERUS   -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 399-12           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 112) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    GENERAL COMMENTS                                   -GESTATION DAY 25  
    KIDNEY   -DILATED PELVIS  
  BILATERAL

    UTERUS   -NON GRAVID -- AMMONIUM SULFIDE NEGATIVE

MICROSCOPIC OBSERVATIONS:  
    ADRENAL    -DILATATION, MINIMAL  
    CERVIX   -TISSUE NOT PRESENT  
    KIDNEY   -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
ANIMAL NUMBER: 405-08           SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS   -IMPLANTATION SCARS (LEFT,RIGHT)  
  8,10

MICROSCOPIC OBSERVATIONS:  
    ADRENAL    -DILATATION, MINIMAL  
    UTERUS   -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4       Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 415-12      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 112) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    GENERAL COMMENTS   -GESTATION DAY 25  
    UTERUS   -NON GRAVID -- AMMONIUM SULFIDE NEGATIVE  
MICROSCOPIC OBSERVATIONS:  
    ADRENAL   -DILATATION, MINIMAL  
    KIDNEY   -INFLAMMATION, CHRONIC, MINIMAL  
  MINERALIZATION, MINIMAL

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; UTERUS; VAGINA.

-----  
ANIMAL NUMBER: 434-08      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    UTERUS   -IMPLANTATION SCARS (LEFT,RIGHT)  
  7,8  
MICROSCOPIC OBSERVATIONS:  
    UTERUS   -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 434-10      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
    EXTERNAL APPEARANCE   -HAIRCOAT - HAIRLOSS  
  FOREPAWS  
    UTERUS   -IMPLANTATION SCARS (LEFT,RIGHT)  
  7,9  
MICROSCOPIC OBSERVATIONS:  
    UTERUS   -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
ADRENAL; BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4      Groups were selected.



AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 435-13                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS                                        -IMPLANTATION SCARS (LEFT,RIGHT)  
  5,10  
  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                                     -DILATATION, MINIMAL  
  CERVIX                                      -TISSUE NOT PRESENT  
  KIDNEY                                      -REGENERATION, TUBULAR, MILD  
  UTERUS                                      -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 437-08                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 131) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS                                        -IMPLANTATION SCARS (LEFT,RIGHT)  
  11,5  
  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                                     -DILATATION, MINIMAL  
  KIDNEY                                      -NEPHROBLASTOMA  
  UTERUS                                      -PIGMENT  
  (MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
ANIMAL NUMBER: 438-15                   SEX: Female       GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 130) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:  
  UTERUS                                        -IMPLANTATION SCARS (LEFT,RIGHT)  
  7,9  
  
MICROSCOPIC OBSERVATIONS:  
  ADRENAL                                     -DILATATION, MILD  
  KIDNEY                                      -INFLAMMATION, CHRONIC, MINIMAL  
  UTERUS                                      -WITHIN NORMAL LIMITS  
  (MACROSCOPIC OBSERVATION NOT CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4                Groups were selected.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 Summarized Single Tabulated Animal Report (continued)  
 Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
 ANIMAL NUMBER: 441-10      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 113) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

EXTERNAL APPEARANCE

-SKIN - SCABBING

VENTRAL THORAX

GENERAL COMMENTS

-TOTAL LITTER LOSS

KIDNEY

-PITTED

UTERUS

LEFT; TWO; PINPOINT

-IMPLANTATION SITES (LEFT,RIGHT)

0,2

RETAINED PUP

ONE SLIGHT TO MODERATELY AUTOLYZED PUP

PRESENT IN RIGHT HORN

WITH A CROWN-RUMP LENGTH OF 4.3 CM

## MICROSCOPIC OBSERVATIONS:

KIDNEY

-WITHIN NORMAL LIMITS

(MACROSCOPIC OBSERVATION NOT CONFIRMED)

SKIN

-HYPERPLASIA, MINIMAL

(MACROSCOPIC OBSERVATION CONFIRMED)

UTERUS

-INFLAMMATION, ACUTE, MINIMAL

HYPERPLASIA, MINIMAL

PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

ADRENAL; BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----

ANIMAL NUMBER: 448-04      SEX: Female      GROUP: ( 5) 10.0 MG/KG/DAY  
 Fate: (Day= 131) SCHEDULED EUTHANASIA

## MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)

14,8

## MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:

BRAIN; CERVIX; KIDNEY; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----

SPECIES: RAT

PROJECT NUMBER: 3472.4

Groups were selected.

Summarized STAR Page: 20

(611)

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Summarized Single Tabulated Animal Report (continued)  
Individual Macroscopic and Microscopic Observations

Table: 2D

-----  
ANIMAL NUMBER: 627-11           SEX: Female    GROUP: ( 5) 10.0 MG/KG/DAY  
Fate: (Day= 129) SCHEDULED EUTHANASIA

MACROSCOPIC OBSERVATIONS:

UTERUS

-IMPLANTATION SCARS (LEFT,RIGHT)  
13,5

MICROSCOPIC OBSERVATIONS:

ADRENAL

-DILATATION, MILD

KIDNEY

-INFARCT, HEALED, MINIMAL

UTERUS

-PIGMENT

(MACROSCOPIC OBSERVATION CONFIRMED)

The following tissues were found to be within normal limits:  
BRAIN; CERVIX; LIVER; OVARY; OVIDUCT; PITUITARY; SPLEEN; VAGINA.

-----  
SPECIES: RAT  
PROJECT NUMBER: 3472.4           Groups were selected.

Summarized STAR Page: 21

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory

Table: 3A

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 0 MG/KG/DAY																			
		Animal Numbers																			
		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7
		2	2	3	3	3	3	4	4	4	5	5	6	6	7	8	8	9	0	1	2
		1	3	5	0	6	8	9	0	6	7	9	2	6	0	5	3	6	8	5	3
		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EPIDIDYMIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PROSTATE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SEMINAL VESICLE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
TESTIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
----- The following tissue(s) were not required by protocol -----																					
CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUNG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYMUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A [+] indicates that a diagnosis was made. A [-] indicates that no diagnosis or comment was made.  
A [c] indicates that no diagnosis was made; a comment appears in the Single Tabulated Animal Report.  
A [F] indicates that a free text comment was the only entry.  
A [T] indicates an entry was made that is not reflected in the summary tables.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3A

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 1.0 MG/KG/DAY																			
		Animal Numbers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADRENAL																					
BRAIN																					
EPIDIDYMIS																					
KIDNEY																					
LIVER																					
PITUITARY																					
PROSTATE																					
SEMINAL VESICLE																					
SPLEEN																					
TESTIS																					
----- The following tissue(s) were not required by protocol -----																					
CECUM																					
COLON																					
DUODENUM																					
ESOPHAGUS																					
EYE																					
HEART																					
ILEUM																					
JEJUNUM																					
LUNG																					
MAMMARY GLAND																					
PANCREAS																					
PARATHYROID																					
SKIN																					
SPINAL CORD																					
STOMACH																					
THYMUS																					
THYROID																					
TRACHEA																					
URINARY BLADDER																					

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A [c] indicates that no diagnosis was made; a comment appears in the Single Tabulated Animal Report.  
A [F] indicates that a free text comment was the only entry.  
A [T] indicates an entry was made that is not reflected in the summary tables.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3A

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 5.0 MG/KG/DAY																			
		Animal Numbers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADRENAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BRAIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EPIDIDYMIS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
KIDNEY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LIVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PITUITARY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PROSTATE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SEMINAL VESICLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SPLEEN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TESTIS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
----- The following tissue(s) were not required by protocol -----																					
CECUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COLON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DUODENUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ESOPHAGUS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EYE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HEART	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ILEUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JEJUNUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LUNG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MAMMARY GLAND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PANCREAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PARATHYROID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SKIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SPINAL CORD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
STOMACH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THYMUS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THYROID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRACHEA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
URINARY BLADDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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A [F] indicates that a free text comment was the only entry.  
A [T] indicates an entry was made that is not reflected in the summary tables.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3A

PROJECT NUMBER: 3472.4  
SPECIES: RAT

		Dose Group Name: 10.0 MG/KG/DAY																			
Animal Numbers		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7
		1	2	2	4	6	7	7	8	9	9	0	1	1	1	2	2	2	3	4	4
		4	7	8	9	8	7	0	6	3	2	3	7	0	5	6	0	4	6	7	0
Tissue Name	Sex	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EPIDIDYMIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PROSTATE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SEMINAL VESICLE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
TESTIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
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CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EYE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUNG		-	-	-	-	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	+
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYMUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory

Table: 3B

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 0 MG/KG/DAY																											
		Animal Numbers																											
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	6	
		0	1	1	2	2	4	4	4	5	6	7	8	8	8	8	8	9	0	0	0	2	2	2	2	4	5	2	
		6	1	7	1	3	1	5	8	3	5	9	1	0	3	4	7	8	0	0	3	8	0	5	6	7	9	0	8
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
CERVIX		+	+	+	+	+	-	+	+	+	+	+	+	+	T	+	+	+	+	+	+	+	+	+	+	+	+	T	
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OVARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OVIDUCT		+	+	+	+	+	T	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
UTERUS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
VAGINA		+	+	+	+	+	+	+	+	+	+	+	+	+	T	+	+	+	+	+	+	+	+	+	+	+	+	T	
----- The following tissue(s) were not required by protocol -----																													
CECUM		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
COLON		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
DIAPHRAGM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-		
DUODENUM		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ESOPHAGUS		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HEART		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ILEUM		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
JEJUNUM		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
LUNG		-	-	-	-	-	+	-	+	-	-	-	-	-	+	-	+	-	-	-	-	-	-	+	-	-	-		
LYMPH NODE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MAMMARY GLAND		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PANCREAS		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SPINAL CORD		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
STOMACH		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
THYMUS		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
THYROID/PARATHYROID		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-		
TRACHEA		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
URINARY BLADDER		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3B

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 5.0 MG/KG/DAY																											
		Animal Numbers																											
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
		0	0	1	2	2	2	3	4	4	4	5	6	6	6	7	7	8	8	9	9	0	1	1	1	1	3	4	5
		3	9	6	0	6	8	0	4	6	7	0	0	1	5	4	5	1	9	3	8	2	0	4	6	7	6	3	1
ADRENAL		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BRAIN		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CERVIX		-	c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KIDNEY		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LIVER		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OVARY		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OVIDUCT		-	c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PITUITARY		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPLEEN		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UTERUS		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VAGINA		-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
----- The following tissue(s) were not required by protocol -----																													
CECUM		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLON		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIAPHRAGM		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUODENUM		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESOPHAGUS		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEART		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILEUM		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JEJUNUM		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUNG		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LYMPH NODE		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAMMARY GLAND		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PANCREAS		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARATHYROID		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOMACH		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYMUS		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID/PARATHYROID		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRACHEA		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URINARY BLADDER		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3B

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 10.0 MG/KG/DAY																											
		Animal Numbers																											
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	6	6	
		0	1	1	2	3	3	3	3	5	5	6	6	7	9	9	9	9	0	1	3	3	3	3	4	4	5	2	2
		8	8	9	7	1	3	6	7	2	8	2	4	8	4	5	6	9	5	5	4	5	7	8	1	8	2	6	7
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
CERVIX		+	+	+	+	+	+	T	+	T	T	+	T	+	+	+	+	+	+	+	+	+	+	+	T	-	T	+	
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
OVARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
OVIDUCT		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
UTERUS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
VAGINA		+	+	+	+	+	+	T	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	T	+
----- The following tissue(s) were not required by protocol -----																													
CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
DIAPHRAGM		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
LUNG		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
LYMPH NODE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
THYMUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID/PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+

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A [F] indicates that a free text comment was the only entry.  
A [T] indicates an entry was made that is not reflected in the summary tables.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory

Table: 3C

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 0 MG/KG/DAY																											
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
Animal Numbers		6	6	1	7	1	1	3	3	5	8	3	5	5	1	0	4	8	0	0	3	8	0	5	6	7	9	0	8
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	2	6	4	1	4	5	6	1	4	6	2	5	1	4	5	3	4	6	6	3	2	7	5	2	5	6	4
		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EPIDIDYMIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PROSTATE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SEMINAL VESICLE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
TESTIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
----- The following tissue(s) were not required by protocol -----																													
CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIAPHRAGM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUNG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LYMPH NODE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERICARDIUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYMUS		-	-	+	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URETER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3C

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 1.0 MG/KG/DAY																											
		3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	6				
Animal Numbers		1	1	1	1	2	2	2	5	6	7	9	9	0	0	1	1	1	2	2	2	2	3	3	4	2			
		0	2	2	3	4	4	5	9	4	3	7	7	7	6	9	1	3	9	2	3	8	8	9	0	1	0	7	9
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		1	3	6	3	3	2	8	5	5	6	5	2	6	7	3	1	4	0	4	3	3	9	6	6	3	4	2	7
ADRENAL		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BRAIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EPIDIDYMIS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
KIDNEY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LIVER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PITUITARY		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PROSTATE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SEMINAL VESICLE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SPLEEN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TESTIS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
----- The following tissue(s) were not required by protocol -----																													
CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DIAPHRAGM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LUNG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LYMPH NODE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PERICARDIUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THYMUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
URETER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3C

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 10.0 MG/KG/DAY																								
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	6	6
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
EPIDIDYMIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PROSTATE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SEMINAL VESICLE		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
TESTIS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
-----		The following tissue(s) were not required by protocol -----																								
CECUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLON		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DIAPHRAGM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
DUODENUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESOPHAGUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEART		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ILEUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUNG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-
LYMPH NODE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAMMARY GLAND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PANCREAS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PARATHYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERICARDIUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPINAL CORD		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOMACH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYMUS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THYROID		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRACHEA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URETER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
URINARY BLADDER		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory

Table: 3D

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 0 MG/KG/DAY																											
		Animal Numbers																											
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	6	6
		0	1	1	2	2	4	4	4	5	5	7	8	8	8	9	9	0	0	0	2	2	2	2	4	4	5	2	2
		6	1	7	1	3	5	5	8	3	5	1	0	4	8	0	0	0	3	8	0	5	6	7	9	9	0	8	8
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		0	1	1	1	1	0	0	1	1	1	0	0	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1
		5	3	3	0	2	5	8	3	1	3	3	9	3	3	9	1	0	2	2	5	3	4	4	1	2	3	7	2
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
CERVIX		+	+	T	+	T	T	-	+	T	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
OVARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
OVIDUCT		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
UTERUS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
VAGINA		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
----- The following tissue(s) were not required by protocol -----																													
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LYMPH NODE, MANDIBULAR		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SKIN - GLANDULAR ADNEXA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

A [+] indicates that a diagnosis was made. A [-] indicates that no diagnosis or comment was made.  
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 A [F] indicates that a free text comment was the only entry.  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
Tissue Inventory (continued)

Table: 3D

PROJECT NUMBER: 3472.4  
SPECIES: RAT

Tissue Name	Sex	Dose Group Name: 10.0 MG/KG/DAY																													
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	6						
Animal Numbers		0	1	1	1	2	3	3	3	3	5	5	6	6	7	9	9	9	9	0	1	3	3	3	3	4	4	2			
		8	8	8	9	7	1	3	6	7	2	8	2	4	8	4	5	6	9	5	5	4	4	5	7	8	1	8	7		
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		1	0	1	1	0	0	0	0	0	1	0	0	1	1	1	1	1	1	0	1	0	1	1	0	1	1	0	1	0	1
		4	4	0	0	4	8	6	8	7	2	9	4	3	0	1	5	6	2	8	2	8	0	3	8	5	0	4	1	1	
		F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
ADRENAL		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
BRAIN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
CERVIX		+	+	+	+	+	+	+	+	+	T	+	+	+	+	+	+	+	+	T	+	+	+	T	+	+	+	+	+	+	
KIDNEY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
LIVER		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OVARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OVIDUCT		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
PITUITARY		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
SPLEEN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
UTERUS		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
VAGINA		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
----- The following tissue(s) were not required by protocol -----																															
JEJUNUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LYMPH NODE, MANDIBULAR		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SKIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SKIN - GLANDULAR ADNEXA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

A [+] indicates that a diagnosis was made. A [-] indicates that no diagnosis or comment was made.  
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(624)

SLI Study No. 3472.4

## APPENDIX U

Individual F1 Pup Viability



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX U  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP VIABILITY

GROUP 1: 0 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0		NO. VIABLE DAY 0		TOTAL		DAY 1		BEFORE SELECTION DAY 4		AFTER SELECTION DAY 4		DAY 7		DAY 14		DAY 21	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
306	0	0	4/4	100	2/2	100	6	4	2	4	2	4	4	2	4	2	4	2
311	0	0	7/7	100	9/9	100	16	7	9	7	9	4	4	4	4	4	4	4
317	0	0	9/9	100	5/5	100	14	9	5	9	5	4	4	4	4	4	4	4
321	0	1	4/4	100	9/10	90	13	4	9	4	9	4	4	4	4	4	4	4
323	0	0	6/6	100	9/9	100	15	6	9	6	9	4	4	4	4	4	4	4
341	0	0	7/7	100	6/6	100	13	7	6	7	6	4	4	4	4	4	4	4
345	0	0	2/2	100	10/10	100	12	2	10	2	10	2	6	2	6	2	6	2
348	0	0	5/5	100	8/8	100	13	5	8	5	8	4	4	4	4	4	4	4
353	0	2	6/6	100	7/9	78	13	6	7	6	7	4	4	4	4	4	4	4
355	0	0	7/7	100	9/9	100	16	7	7	7	7	4	4	4	4	4	4	4
371	0	0	1/1	100	4/4	100	5	1	4	1	4	1	4	1	4	1	4	1
380	0	0	8/8	100	6/6	100	14	8	6	8	6	4	4	4	4	4	4	4
384	0	0	8/8	100	5/5	100	13	8	5	8	5	4	4	4	4	4	4	4
388	0	0	5/5	100	8/8	100	13	5	8	5	8	4	4	4	4	4	4	4
390	0	0	8/8	100	8/8	100	16	8	8	8	8	4	4	4	4	4	4	4
400	1	0	5/6	83	5/5	100	10	5	5	5	5	4	4	4	4	4	4	4
403	0	0	6/6	100	8/8	100	14	6	8	6	8	4	4	4	4	4	4	4
408	0	0	8/8	100	6/6	100	14	8	6	8	6	4	4	4	4	4	4	4
420	0	0	2/2	100	3/3	100	5	2	3	2	3	2	3	2	3	2	3	2
425	0	0	8/8	100	5/5	100	13	8	5	8	5	4	4	4	4	4	4	4
426	0	0	11/11	100	6/6	100	17	11	6	11	6	4	4	4	4	4	4	4
427	0	1	5/5	100	8/9	89	13	5	8	5	8	4	4	4	4	4	4	4
449	0	0	5/5	100	7/7	100	12	5	7	5	7	4	4	4	4	4	4	4
450	0	1	10/10	100	4/5	80	14	10	4	10	4	4	4	4	4	4	4	4
628	0	0	6/6	100	6/6	100	12	6	6	6	6	4	4	4	4	4	4	4
TOTAL	1	5	153/154	163/168	316		316	153	161	153	161	93	99	93	89	95	89	95

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0		NO. VIABLE DAY 0		TOTAL		BEFORE SELECTION DAY 4				AFTER SELECTION DAY 4				DAY 7		DAY 14		DAY 21		
	M	F	M	%	F	%	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
310	0	0	3/	3	100	7/	7	100	10	3	7	3	7	3	5	3	5	3	5	3	5
312	0	0	6/	6	100	5/	5	100	11	6	5	6	5	6	4	4	4	4	4	4	4
313	0	0	4/	4	100	4/	4	100	8	4	4	4	4	4	4	4	4	4	4	4	4
314	0	1	7/	7	100	5/	6	83	12	7	5	7	5	4	4	4	4	4	4	4	4
324	0	0	5/	5	100	8/	8	100	13	5	8	5	8	4	4	4	4	4	4	4	4
325	0	0	8/	8	100	5/	5	100	13	8	5	8	5	4	4	4	4	4	4	4	4
329	0	0	8/	8	100	6/	6	100	14	8	6	8	6	4	4	4	4	4	4	4	4
339	2	0	0/	2	0	0/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
354	0	0	5/	5	100	7/	7	100	12	5	7	5	7	4	4	4	4	4	4	4	4
363	4	0	5/	9	56	7/	7	100	12	5	7	5	7	4	4	4	4	4	4	4	4
377	0	0	8/	8	100	7/	7	100	15	8	7	8	7	4	4	4	4	4	4	4	4
397	0	1	6/	6	100	8/	9	89	14	6	8	6	8	4	4	4	4	4	4	4	4
406	1	0	5/	6	83	10/	10	100	15	5	10	4	10	4	4	4	4	4	4	4	4
409	0	0	8/	8	100	4/	4	100	12	8	4	8	4	4	4	4	4	4	4	4	4
411	0	0	6/	6	100	7/	7	100	13	6	6	6	6	4	4	4	4	4	4	4	4
413	0	0	6/	6	100	9/	9	100	15	6	9	6	9	4	4	4	4	4	4	4	4
419	0	0	10/	10	100	4/	4	100	14	10	4	10	4	4	4	4	4	4	4	4	4
422	0	0	5/	5	100	9/	9	100	14	5	9	5	9	4	4	4	4	4	4	4	4
423	0	0	7/	7	100	7/	7	100	14	7	7	7	7	4	4	4	4	4	4	4	4
428	1	0	8/	9	89	6/	6	100	14	8	6	8	6	4	4	4	4	4	4	4	4
429	1	0	6/	7	86	7/	7	100	13	6	7	6	7	4	4	4	4	4	4	4	4
430	0	0	7/	7	100	10/	10	100	17	7	10	7	10	4	4	4	4	4	4	4	4
431	0	0	9/	9	100	7/	7	100	16	9	7	9	6	4	4	4	4	4	4	4	4
440	0	0	8/	8	100	8/	8	100	16	8	8	8	8	4	4	4	4	4	4	4	4
447	0	1	5/	5	100	11/	12	92	16	5	11	5	11	4	4	4	4	4	4	4	4
629	0	0	8/	8	100	9/	9	100	17	8	9	8	9	4	4	4	4	4	4	4	4
TOTAL	9	3	163/	172	177/	180			340	163	176	162	175	99	101	98	100	97	100	97	100

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX U  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP VIABILITY

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	NO. DEAD		NO. VIABLE		DAY 1		BEFORE SELECTION		AFTER SELECTION		DAY 7		DAY 14		DAY 21	
	DAY 0		DAY 0		M	F	M	F	M	F	M	F	M	F	M	F
	M	F	M	F	%	%										
304	0	1	6/6	100	8/9	89	6	8	6	8	4	4	4	4	4	4
307	0	0	10/10	100	4/4	100	9	4	9	4	4	4	4	4	4	4
332	0	0	4/4	100	1/1	100	4	1	4	1	4	1	4	1	4	1
338	0	0	5/5	100	9/9	100	5	9	5	9	4	4	4	4	4	4
340	0	0	8/8	100	3/3	100	8	3	8	3	5	3	5	3	5	3
342	0	0	4/4	100	3/3	100	4	3	4	3	4	3	4	3	4	3
343	0	1	7/7	100	6/7	86	7	6	7	6	4	4	4	4	4	4
351	1	2	5/6	83	7/9	78	5	7	5	7	4	4	4	4	4	4
356	0	0	7/7	100	8/8	100	7	7	7	7	4	4	4	4	4	4
357	0	0	5/5	100	8/8	100	4	8	4	8	4	4	4	4	4	4
359	0	0	8/8	100	8/8	100	8	8	7	8	4	4	4	4	4	4
367	0	1	5/5	100	6/7	86	5	6	5	6	4	4	4	4	4	4
368	0	0	6/6	100	8/8	100	6	8	6	8	4	4	4	4	4	4
372	0	0	6/6	100	7/7	100	6	7	6	7	4	4	4	4	4	4
373	0	0	6/6	100	8/8	100	6	8	6	8	4	4	4	4	4	4
382	0	0	5/5	100	6/6	100	5	6	5	6	4	4	4	4	4	4
385	0	0	4/4	100	3/3	100	4	3	4	3	4	3	4	3	4	3
404	0	0	6/6	100	5/5	100	6	5	5	5	4	4	4	4	4	4
418	0	0	6/6	100	8/8	100	6	8	6	8	4	4	4	4	4	4
421	1	0	7/8	88	6/6	100	7	6	7	6	4	4	4	4	4	4
432	0	0	6/6	100	10/10	100	6	10	6	10	4	4	4	4	4	4
439	0	0	7/7	100	8/8	100	7	8	7	8	4	4	4	4	4	4
444	0	0	6/6	100	10/10	100	6	10	6	10	4	4	4	4	4	4
445	0	0	9/9	100	4/4	100	9	4	9	4	4	4	4	4	4	4
625	0	0	6/6	100	6/6	100	6	6	6	6	4	4	4	4	4	4
TOTAL	2	5	0	154/156	160/165	314	152	159	150	159	101	94	101	94	101	94

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX U  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP VIABILITY

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0			NO. VIABLE DAY 0			TOTAL			BEFORE SELECTION DAY 4						AFTER SELECTION DAY 4					
	M	F	U	M	F	%	M	F	%	M	F	M	F	M	F	M	F				
										DAY 1		DAY 7		DAY 14		DAY 21					
303	0	0	0	6/6	100	5/5	100	11	6	5	6	5	4	4	4	4	4	4			
316	0	0	0	8/8	100	4/4	100	12	8	4	8	4	4	4	4	4	4	4			
326	0	0	0	7/7	100	7/7	100	14	7	7	7	7	4	4	4	4	4	4			
328	0	0	0	7/7	100	3/3	100	10	7	3	7	3	5	3	5	3	5	3			
330	0	0	0	0/0	0	3/3	100	3	0	3	0	3	0	3	0	3	0	3			
344	0	0	0	6/6	100	6/6	100	12	6	6	6	6	4	4	4	4	4	4			
346	0	0	0	10/10	100	5/5	100	15	9	5	9	5	4	4	4	4	4	4			
347	1	0	0	8/9	89	5/5	100	13	8	5	8	5	4	4	4	4	4	4			
350	0	0	0	9/9	100	3/3	100	12	8	3	8	3	5	3	5	3	5	3			
360	0	0	0	7/7	100	6/6	100	13	7	6	7	6	4	4	4	4	4	4			
361	0	0	0	9/9	100	5/5	100	14	9	5	9	5	4	4	4	4	4	4			
365	0	0	0	7/7	100	4/4	100	11	7	4	7	4	4	4	4	4	4	4			
374	0	0	0	6/6	100	7/7	100	13	6	7	6	7	4	4	4	4	4	4			
375	0	0	0	7/7	100	8/8	100	15	7	8	7	8	4	4	4	4	4	4			
381	0	0	0	9/9	100	5/5	100	14	9	5	9	5	4	4	4	4	4	4			
389	1	1	0	4/5	80	7/8	88	11	4	7	4	7	4	4	4	4	4	4			
393	0	0	0	6/6	100	8/8	100	14	6	8	6	7	4	4	4	4	4	4			
398	0	2	0	5/5	100	4/6	67	9	5	4	5	4	4	4	4	4	4	4			
402	0	0	0	8/8	100	6/6	100	14	8	6	8	6	4	4	4	4	4	4			
410	0	0	0	8/8	100	6/6	100	14	8	6	8	6	4	4	4	4	4	4			
414	0	0	0	6/6	100	6/6	100	12	6	6	6	6	4	4	4	4	4	4			
416	0	0	0	4/4	100	10/10	100	14	4	10	4	10	4	4	4	4	4	4			
417	0	0	0	9/9	100	7/7	100	16	9	7	9	7	4	4	4	4	4	4			
436	0	0	0	5/5	100	7/7	100	12	5	7	5	7	4	4	4	4	4	4			
443	1	1	0	6/7	86	4/5	80	10	6	4	6	4	4	4	4	4	4	4			
451	0	0	0	9/9	100	7/7	100	16	9	7	9	7	4	4	4	4	4	4			
TOTAL	3	4	0	176/179	148/152			324	174	148	174	147	102	101	102	101	102	101			

M = MALE, F = FEMALE, U = UNDETERMINED  
 NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX U  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP VIABILITY

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0		NO. VIABLE DAY 0		TOTAL		DAY 1		SELECTION DAY 4		BEFORE SELECTION DAY 4		DAY 7		DAY 14		DAY 21	
	M	F	M	%	F	%	M	F	M	F	M	F	M	F	M	F	M	F
308	0	1	0	9/100	6/7	86	8	6	7	6	4	4	4	4	4	4	4	4
318	0	0	0	3/3	100	8/8	100	3	8	3	8	5	3	5	3	5	3	5
319	1	2	0	4/5	80	5/7	71	4	5	4	4	4	4	4	4	4	4	4
327	0	0	0	2/2	100	3/3	100	2	3	2	3	2	3	2	3	2	3	2
331	0	0	0	6/6	100	9/9	100	6	9	6	9	4	4	4	4	4	4	4
333	0	0	0	4/4	100	6/6	100	4	5	4	4	4	4	4	4	4	4	4
336	0	0	0	6/6	100	7/7	100	6	7	6	7	4	4	4	4	4	4	4
337	0	1	0	3/3	100	5/6	83	3	5	3	5	3	5	3	5	3	5	3
352	1	0	0	7/8	88	5/5	100	7	5	7	5	4	4	4	4	4	4	4
358	0	1	0	7/7	100	6/7	86	7	6	7	6	4	4	4	4	4	4	4
362	0	0	0	3/3	100	2/2	100	3	2	3	2	3	2	3	2	3	2	3
364	0	0	0	6/6	100	7/7	100	6	7	6	7	4	4	4	4	4	4	4
378	3	1	0	4/7	57	4/5	80	4	4	4	4	4	4	4	4	4	4	4
394	0	0	0	8/8	100	6/6	100	8	6	8	6	4	4	4	4	4	4	3
395	0	0	1	6/6	100	8/8	100	6	8	6	8	4	4	4	4	4	4	4
396	0	0	0	8/8	100	8/8	100	8	8	8	8	4	4	4	4	4	4	4
399	0	0	0	9/9	100	5/5	100	9	5	9	5	4	4	4	4	4	4	4
405	0	0	0	5/5	100	4/4	100	5	4	5	4	4	4	4	4	4	4	4
415	0	0	0	7/7	100	9/9	100	7	9	7	9	4	4	4	4	4	4	4
434	0	0	0	7/7	100	6/6	100	7	6	7	5	4	4	4	4	4	4	4
435	0	0	0	10/10	100	5/5	100	10	5	10	5	4	4	4	4	4	4	4
437	0	0	0	7/7	100	3/3	100	7	3	7	3	5	3	5	3	5	3	5
438	1	0	0	7/8	88	8/8	100	7	8	7	8	4	4	4	4	4	4	4
441	0	0	0	6/6	100	5/5	100	6	5	6	5	4	4	4	4	4	4	4
448	0	0	0	2/2	100	2/2	100	2	2	2	2	2	2	2	2	2	2	2
452	1	0	0	0/1	0	9/9	100	0	9	0	9	0	8	0	0	0	0	0
626	0	0	0	5/5	100	7/7	100	5	7	4	7	4	4	4	4	4	4	4
627	0	0	0	7/7	100	4/4	100	7	4	7	4	4	4	4	4	4	4	4
TOTAL	7	6	1	158/165	162/168	320	157	161	155	160	102	112	102	112	102	103	102	103

M = MALE, F = FEMALE, U = UNDETERMINED

NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

a DOES NOT INCLUDE ONE FEMALE PUP (#11) NOT OBSERVED ON DAY 0 BUT FOUND DEAD ON DAY 1.

SLI Study No. 3472.4

APPENDIX V

Individual F1 Pup Observations during Lactation  
(Positive Findings)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX V  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

PAGE 1

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
311	1	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
317	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	5	F	CULLED ON SCHEDULED DAY	4
	6	F	PURPLE IN COLOR	0
321	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
		F	FOUND DEAD	0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

PAGE 2

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
323	1	a	CANNIBALIZED	0	
	4	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	341	1	M	CULLED ON SCHEDULED DAY	4
		2	M	CULLED ON SCHEDULED DAY	4
		3	M	UNSCHEDULED EUTHANASIA	11
		4	M	DAM EUTHANIZED - DUE TO BITTING	4
		5	M	UNSCHEDULED EUTHANASIA	11
		6	M	DAM EUTHANIZED - DUE TO BITTING	0
				SUBCUTANEOUS HEMORRHAGE(S) VENTRAL NECK	
			UNSCHEDULED EUTHANASIA	11	
			DAM EUTHANIZED - DUE TO BITTING	11	
7		M	UNSCHEDULED EUTHANASIA	11	
8		F	CULLED ON SCHEDULED DAY	4	
9	F	UNSCHEDULED EUTHANASIA	11		
10	F	DAM EUTHANIZED - DUE TO BITTING	11		
11	F	UNSCHEDULED EUTHANASIA	11		

a SEX OF PUP COULD NOT BE DETERMINED DUE TO CANNIBALIZATION.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
341	12	F	SCAB(S) LEFT FORELIMB	0
	13	F	CULLED ON SCHEDULED DAY UNSCHEDULED EUTHANASIA DAM EUTHANIZED - DUE TO BITING	4 11
345	3	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
348	5	M	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
353	1	F	FOUND DEAD	0
	2	F	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	10	F	SCAB(S) - NOSE AREA CULLED ON SCHEDULED DAY	4 4
	12	F	SCAB(S) - MOUTH AREA SCAB(S) - NOSE AREA SCAB(S)	4 4 4
			LEFT FORELIMB	7
			SCAB(S)	7
			NOSE AREA, MOUTH AREA	
			NOSE AREA, MOUTH AREA	

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX V  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
353	12	F	SCAB(S) LEFT FORELIMB	14
			SCAB(S) NOSE AREA, MOUTH AREA	14
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
355	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	FOUND DEAD	1
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	SCAB(S) NOSE REGION	0
	15	F	FOUND DEAD	1
	16	F	CULLED ON SCHEDULED DAY	4
380	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
384	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
384	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
388	2	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
390	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
400	1	M	FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
403	1	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

PAGE 6

GROUP 1: 0 MG/KG/DAY

APPENDIX V

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
403	13	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0
	14	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT LATERAL HEAD, LEFT LATERAL HEAD PURPLE IN COLOR	0
408	2	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	0
	11	F	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
425	6	M	CULLED ON SCHEDULED DAY	4
	8	M	HAIRLOSS - SLIGHT	14
	10	F	HAIRLOSS - SLIGHT	21
	12	F	CULLED ON SCHEDULED DAY SCAB(S) MOUTH REGION	4
	13	F	HAIRLOSS - SLIGHT	14
			HAIRLOSS - SLIGHT	14

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY		
425	13	F	HAIRLOSS - SLIGHT	21		
426	1	M	CULLED ON SCHEDULED DAY	4		
	2	M	CULLED ON SCHEDULED DAY	4		
	3	M	CULLED ON SCHEDULED DAY	4		
	6	M	CULLED ON SCHEDULED DAY	4		
	7	M	CULLED ON SCHEDULED DAY	4		
	9	M	CULLED ON SCHEDULED DAY	4		
	11	M	CULLED ON SCHEDULED DAY	4		
	12	F	CULLED ON SCHEDULED DAY	4		
	13	F	CULLED ON SCHEDULED DAY	4		
	427	1	F	FOUND DEAD	0	
		3	M	CULLED ON SCHEDULED DAY	4	
		7	F	CULLED ON SCHEDULED DAY	4	
		8	F	CULLED ON SCHEDULED DAY	4	
10		F	CULLED ON SCHEDULED DAY	4		
13		F	CULLED ON SCHEDULED DAY	4		
449		2	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT LATERAL HEAD, RIGHT LATERAL HEAD	0	
		4	M	CULLED ON SCHEDULED DAY	4	
		6	F	CULLED ON SCHEDULED DAY	4	
		9	F	SCAB(S) RIGHT HINDLIMB	0	
		10		F	CULLED ON SCHEDULED DAY	4
				F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
450	1	F	FOUND DEAD	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	
	9	M	CULLED ON SCHEDULED DAY	4	
	10	M	CULLED ON SCHEDULED DAY	4	
	11	M	CULLED ON SCHEDULED DAY	4	
	628	2	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0
		3	M	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) NOSE	4
		5	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0
		8	F	CULLED ON SCHEDULED DAY	4
10		F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
310	5	F	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
312	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
314	1	F	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	8	M	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0
324	9	F	PURPLE IN COLOR CULLED ON SCHEDULED DAY	0
	11	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	4
	13	F	CULLED ON SCHEDULED DAY SCAB(S) - MOUTH AREA	4
	3	M	CULLED ON SCHEDULED DAY	4
324	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	13	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
325	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
329	10	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
339	6	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	0
	9	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
354	2	M	FOUND DEAD	0
	3	a	CANNIBALIZED	0
	3	M	CULLED ON SCHEDULED DAY	4
363	6	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
363	1	M	FOUND DEAD	0
	2	M	FOUND DEAD	0
	3	M	FOUND DEAD	0
	4	M	FOUND DEAD	0

a SEX OF PUP COULD NOT BE DETERMINED DUE TO CANNIBALIZATION.



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

APPENDIX V

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
363	7	M	CULLED ON SCHEDULED DAY	4
	11	F	SUBCUTANEOUS HEMORRHAGE(S) LEFT LATERAL HEAD, NOSE REGION	0
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
377	16	F	CULLED ON SCHEDULED DAY	4
	1	M	HAIRLOSS - SLIGHT	14
	2	M	HAIRLOSS - SLIGHT	14
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	HAIRLOSS - SLIGHT	14
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	HAIRLOSS - SLIGHT	14
	9	F	HAIRLOSS - SLIGHT	14
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	HAIRLOSS - SLIGHT	14
	13	F	HAIRLOSS - SLIGHT	14
	14	F	CULLED ON SCHEDULED DAY	4
15	F	HAIRLOSS - SLIGHT	14	
397	1	F	FOUND DEAD	0
	3	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
397	10	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
406	1	M	FOUND DEAD	0	
	5	M	COOL TO THE TOUCH	0	
	6	M	MISSING - PRESUMED CANNIBALIZED	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
	409	1	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
2		M	CULLED ON SCHEDULED DAY	4	
4		M	CULLED ON SCHEDULED DAY	4	
8		M	CULLED ON SCHEDULED DAY SCAB(S) FACIAL AREA	0	
			CULLED ON SCHEDULED DAY	4	
411		4	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		7	F	PURPLE IN COLOR OPEN LESION(S) VENTRAL NECK	0
				SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0
					0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
411	7	F	MISSING - PRESUMED CANNIBALIZED	1
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
413	2	M	SUBCUTANEOUS HEMORRHAGE(S)	0
	3	M	MOUTH REGION CULLED ON SCHEDULED DAY	4
	4	M	SCAB(S)	0
	6	M	MOUTH REGION CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
419	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
6	M	PORTION OF TAIL ABSENT DISTAL	0	
422			PORTION OF TAIL ABSENT DISTAL	4
	9	M	CULLED ON SCHEDULED DAY	4
	4	M	SCAB(S) DORSAL HEAD	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
422	5	M	CULLED ON SCHEDULED DAY	4	
	6	F	CULLED ON SCHEDULED DAY	4	
	7	F	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	423	1	M	MISSING - PRESUMED CANNIBALIZED	13
		2	M	CULLED ON SCHEDULED DAY	4
		3	M	SUBCUTANEOUS HEMORRHAGE(S)	0
		4	M	NOSE REGION, MOUTH REGION SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
		5	M	CULLED ON SCHEDULED DAY	4
				PALE IN COLOR	4
				FOUND DEAD	5
		6	M	CULLED ON SCHEDULED DAY	4
7		M	SCAB(S) - MOUTH AREA	4	
9		F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
10		F	FOUND DEAD	5	
11		F	CULLED ON SCHEDULED DAY	4	
13		F	CULLED ON SCHEDULED DAY	4	
14		F	CULLED ON SCHEDULED DAY	4	
428	1	M	FOUND DEAD	0	
	2	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
428	2	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	9	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	10	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	429	1	M	FOUND DEAD	0
		4	M	CULLED ON SCHEDULED DAY	4
5		M	CULLED ON SCHEDULED DAY	4	
9		F	CULLED ON SCHEDULED DAY	4	
10		F	CULLED ON SCHEDULED DAY	4	
13		F	CULLED ON SCHEDULED DAY	4	
430		1	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
	431	1	M	CULLED ON SCHEDULED DAY	4
2		M	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX V  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
431	4	M	PURPLE IN COLOR	0
	5	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
440	14	F	FOUND DEAD	3
	16	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0
	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
447	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
	1	F	FOUND DEAD	0
	6	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
13	F	CULLED ON SCHEDULED DAY	4	
15	F	CULLED ON SCHEDULED DAY	4	
16	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX V  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
629	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
304	1	F	FOUND DEAD	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	15	F	SCAB(S)	0	
			RIGHT INGUINAL		
			SCAB(S)	4	
			RIGHT INGUINAL		
			CULLED ON SCHEDULED DAY	4	
	307	1	M	CULLED ON SCHEDULED DAY	4
		3	M	PALE IN COLOR	0
				OPEN LESION(S)	0
				LEFT INGUINAL	
			MISSING - PRESUMED CANNIBALIZED	1	
4		M	CULLED ON SCHEDULED DAY	4	
6		M	CULLED ON SCHEDULED DAY	4	
9		M	CULLED ON SCHEDULED DAY	4	
10		M	CULLED ON SCHEDULED DAY	4	
338		4	M	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4	
	7	F	CULLED ON SCHEDULED DAY	4	
	10	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
338	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
340	2	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
343	1	F	FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
351	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0
	3	F	FOUND DEAD	0
	6	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
356	13	F	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	11	F	FOUND DEAD	1

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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APPENDIX V

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
356	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
357	2	M	MISSING - PRESUMED CANNIBALIZED	1	
	6	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
359	1	M	FOUND DEAD	2	
	2	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	367	1	F	FOUND DEAD	0
		5	M	CULLED ON SCHEDULED DAY	4
		9	F	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
368	1	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
368	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
372	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
373	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
382	5	M	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
404	4	M	FOUND DEAD	2
	6	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
418	1	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

APPENDIX V

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
418	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
421	1	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	14	M	FOUND DEAD	0	
432	1	M	CULLED ON SCHEDULED DAY	4	
	2	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
	439	1	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		9	F	CULLED ON SCHEDULED DAY	4
		10	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
		12	F	CULLED ON SCHEDULED DAY	4
				CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
439	13	F	CULLED ON SCHEDULED DAY	4	
	444	3	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		7	F	CULLED ON SCHEDULED DAY	4
		8	F	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		13	F	CULLED ON SCHEDULED DAY	4
		15	F	CULLED ON SCHEDULED DAY	4
	445	4	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		7	M	CULLED ON SCHEDULED DAY	4
		8	M	CULLED ON SCHEDULED DAY	4
		9	M	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD, NOSE REGION, LEFT HI ND LIMB	0
12		F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
625		1	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
		3	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		5	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
		7	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4	

APPENDIX V  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
303	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
316	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
326	1	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	SCAB(S)	14
			LEFT HINDLIMB	
			SCAB(S)	21
			LEFT HINDLIMB	
328	2	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
344	1	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	7	F	OPEN LESION(S) LEFT SHOULDER	0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
344	7	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
346	1	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT LATERAL HEAD	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	7	M	FOUND DEAD	1	
	8	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION, MOUTH REGION	0	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
347	1	M	FOUND DEAD	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	9	M	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0	
	14	F	OPEN LESION(S) RIGHT AXILLARY	0	
	350	1	M	CULLED ON SCHEDULED DAY	4
		3	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

APPENDIX V

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
350	5	M	FOUND DEAD	1
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	PORTION OF TAIL ABSENT DISTAL	0
360	12	F	PORTION OF TAIL ABSENT TIP OF TAIL	21
	1	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT LATERAL HEAD, LEFT LATERAL HEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
361	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	SCAB(S) - MOUTH AREA	4
	1	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
374	3	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	8	F	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	375	3	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		7	M	OPEN LESION(S) FACIAL AREA	0
		8	F	CULLED ON SCHEDULED DAY SCAB(S)	4
				FACIAL AREA	4
		9	F	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY OPEN LESION(S) LEFT PINNA	4
15		F	CULLED ON SCHEDULED DAY	4	
381	1	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	9	M	CULLED ON SCHEDULED DAY	4	
	10	F	OPEN LESION(S) MID TAIL	21	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
381	13	F	CULLED ON SCHEDULED DAY	4	
	389	1	FOUND DEAD	0	
		2	FOUND DEAD	0	
7		SCAB(S) LEFT HINDLIMB	4		
393			SCAB(S) POSTERIOR DORSAL	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	1	M	CULLED ON SCHEDULED DAY	4	
	2	M	CULLED ON SCHEDULED DAY	4	
	4	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	7	F	CULLED ON SCHEDULED DAY	4	
	8	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION, DORSAL HEAD	0	
	9	F	FOUND DEAD	2	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	398	1	F	FOUND DEAD	0
		2	F	FOUND DEAD	0
4		M	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

PAGE 29

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
398	10	F	SCAB(S) DORSAL HEAD	14
402	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
410	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	COOL TO THE TOUCH	4
	8	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE	0
	9	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
414	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
416	6	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
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APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
416	11	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
417	1	M	CULLED ON SCHEDULED DAY	4
	2	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
436	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY MECHANICAL INJURY	4
	7	M	CULLED ON SCHEDULED DAY TIP OF TAIL	21
	9	M	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
443	10	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0
	6	M	CULLED ON SCHEDULED DAY	4
451	7	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
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APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
451	5	M	SCAB(S)	14
			LEFT FORELIMB	
			SCAB(S)	14
			ANTERIOR BACK	
			SCAB(S)	21
			LEFT FORELIMB	
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	SUBCUTANEOUS HEMORRHAGE(S)	0
			RIGHT HINDLIMB, MOUTH REGION	
			CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	M	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S)	0
			LEFT HINDLIMB, MID TAIL	
			CULLED ON SCHEDULED DAY	4
13	F	SCAB(S)	14	
		RIGHT AXILLARY		
14	F	CULLED ON SCHEDULED DAY	4	
16	F	SUBCUTANEOUS HEMORRHAGE(S)	0	
		MOUTH REGION		

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
308	1	F	FOUND DEAD	0	
	2	M	OPEN LESION(S) RIGHT LATERAL ABDOMINAL SCAB(S) RIGHT LATERAL ABDOMINAL SCAB(S)	0 4 7	
	4	M	RIGHT LATERAL ABDOMINAL CULLED ON SCHEDULED DAY	4	
	5	M	FOUND DEAD	4	
	7	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0	
	8	M	MISSING - PRESUMED CANNIBALIZED	1	
	9	M	CULLED ON SCHEDULED DAY	4	
	10	M	NO APPARENT MILK IN STOMACH PALE IN COLOR	4 4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY NO APPARENT MILK IN STOMACH PALE IN COLOR COOL TO THE TOUCH CULLED ON SCHEDULED DAY	4 4 4 4 4	
	318	5	F	CULLED ON SCHEDULED DAY	4
		9	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
		11	F	CULLED ON SCHEDULED DAY CULLED ON SCHEDULED DAY	4 4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
319	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0
	3	F	FOUND DEAD	0
	9	F	CULLED ON SCHEDULED DAY	4
331	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
333	7	F	FOUND DEAD	1
	9	F	CULLED ON SCHEDULED DAY	4
336	1	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
337	13	F	CULLED ON SCHEDULED DAY	4
	1	F	FOUND DEAD	0
352	1	M	FOUND DEAD	0
	3	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0

SLI STUDY NO.: 3472.4  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
352	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	1	F	FOUND DEAD	0
	2	M	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0
			SCAB(S) RIGHT LATERAL HEAD, LEFT LATERAL HEAD CULLED ON SCHEDULED DAY	4
	5	M	SCAB(S) ABDOMINAL REGION, NOSE REGION	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	SCAB(S) DORSAL HEAD, POSTERIOR DORSAL	4
362	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	14	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	1	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT LATERAL HEAD, LEFT LATERAL HEAD, NOSE SMALL IN SIZE	0
364	1	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
364	1	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
378	12	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	2	M	FOUND DEAD	0
	3	M	FOUND DEAD	0
394	4	F	FOUND DEAD	0
	11	F	COOL TO THE TOUCH	0
	12	F	COOL TO THE TOUCH	0
	2	M	CULLED ON SCHEDULED DAY	4
395	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	LABORED BREATHING	7
			PALE IN COLOR	7
			FOUND DEAD	13
	14	F	OPEN LESION(S) MID DORSAL	0
	1	a	CANNIBALIZED	0
	2	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0

a SEX OF PUP COULD NOT BE DETERMINED DUE TO CANNIBALIZATION.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
395	2	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	PURPLE IN COLOR	4	
	14	F	PALE IN COLOR	0	
			COOL TO THE TOUCH	0	
			CULLED ON SCHEDULED DAY	4	
	396	3	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		7	M	CULLED ON SCHEDULED DAY	4
		10	F	CULLED ON SCHEDULED DAY	4
12		F	CULLED ON SCHEDULED DAY	4	
13		F	CULLED ON SCHEDULED DAY	4	
14		F	CULLED ON SCHEDULED DAY	4	
16		F	PORTION OF TAIL ABSENT DISTAL	0	
			PORTION OF TAIL ABSENT DISTAL	4	
399		1	M	CULLED ON SCHEDULED DAY	4
	5	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0	
	7	M	CULLED ON SCHEDULED DAY	4	
		CULLED ON SCHEDULED DAY	4		

SLI STUDY NO.: 3472.4  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
399	8	M	CULLED ON SCHEDULED DAY	4	
	9	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0	
	11	F	CULLED ON SCHEDULED DAY	4	
			CULLED ON SCHEDULED DAY	4	
	405	1	M	CULLED ON SCHEDULED DAY	4
	415	3	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
5		M	CULLED ON SCHEDULED DAY	4	
7		M	SCAB(S) FACIAL AREA	0	
8		F	CULLED ON SCHEDULED DAY	4	
9		F	SUBCUTANEOUS HEMORRHAGE(S) ENTIRE DORSAL SIDE	0	
10		F	SCAB(S) FACIAL AREA	0	
434	11	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY SCAB(S) NOSE REGION	4	
	16	F	CULLED ON SCHEDULED DAY CULLED ON SCHEDULED DAY	4	
	1	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	

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 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
434	8	F	SMALL IN SIZE	0
	9	F	FOUND DEAD	2
	12	F	CULLED ON SCHEDULED DAY	4
435	2	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	10	M	CULLED ON SCHEDULED DAY	4
437	10	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
438	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	11	F	FOUND DEAD	1
441	1	M	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
441	6	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
448	2	M	SCAB(S) NOSE REGION	0
			SCAB(S) NOSE REGION	4
452	1	M	FOUND DEAD	0
	2	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	3	F	CULLED ON SCHEDULED DAY	4
	4	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	5	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	6	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	7	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	8	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	9	F	UNSCHEDULED EUTHANASIA DAM DIED	8
	10	F	UNSCHEDULED EUTHANASIA DAM DIED	8
626	1	M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT FORELIMB, LEFT FORELIMB, RIGHT HINDLIMB, LEFT HINDLIMB MOUTH	0
			FOUND DEAD	2

SLI STUDY NO.: 3472.4  
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APPENDIX V  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP OBSERVATIONS DURING LACTATION

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
626	2	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	7
	3	M	COOL TO THE TOUCH LABORED BREATHING	0
	6	F	CULLED ON SCHEDULED DAY	0
	7	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
627	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4

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SLI Study No. 3472.4

## APPENDIX W

Individual F1 Pup Weights during Lactation

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 1  
DAY 1

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
306	10.2	11.0	10.5	10.1	10.3	10.0	9.5																	
311	6.9	7.2	7.1	7.4	6.4	6.6	7.5	7.5	6.9	6.5	6.4	6.8	7.2	6.6	5.8	6.6	7.3							
317	7.2	7.7	7.1	7.8	6.8	7.0	6.7	7.7	8.0	7.2	7.3	7.4	6.6	6.9	7.0									
321	7.6	8.1	8.5	7.4	8.4	7.4	6.3	8.0	7.6	7.8	7.0	7.7	7.3	7.4	D									
323	7.5	D	7.2	7.8	7.2	7.9	8.6	7.4	7.6	7.0	7.3	7.7	6.8	6.6	7.6	7.7	7.7							
341	7.6	8.2	7.7	8.1	7.1	7.5	7.9	7.8	7.1	7.2	7.4	7.3	8.0	7.6										
345	8.1	8.6	8.9	7.8	8.3	8.1	8.1	7.1	8.7	7.3	8.7	6.7	8.4											
348	7.2	7.8	7.1	7.6	7.4	8.1	7.3	7.6	7.5	7.2	7.2	7.0	6.8	7.5										
353	7.3	D	D	6.8	7.4	8.1	7.3	7.6	7.6	6.4	7.1	6.6	6.9	7.3	7.4	7.7								
355	7.1	7.7	7.6	6.5	6.9	7.5	8.1	7.2	6.1	D	7.3	6.6	7.1	7.0	7.0	D	7.3							
371	9.3	9.4	9.6	8.8	9.2	9.5																		
380	6.9	7.0	6.8	6.9	7.1	7.3	7.1	7.3	6.4	7.3	6.4	7.0	6.3	7.1	6.9									
384	6.3	6.3	6.6	6.7	6.5	6.9	6.4	6.6	6.4	5.6	5.7	5.9	6.0	6.0										
388	7.4	8.0	8.3	7.6	7.5	8.0	7.7	7.3	7.2	7.6	7.1	7.5	6.8	6.1										
390	6.6	6.9	6.7	6.8	6.3	6.7	6.3	6.7	6.7	6.7	6.9	6.8	6.2	6.6	6.2	6.6	6.7							
400	8.0	D	8.6	8.2	8.0	7.9	8.5	8.5	7.1	7.7	7.8													
403	6.6	6.8	7.0	6.4	7.2	7.6	6.4	6.1	6.8	6.9	7.1	6.9	6.6	5.2	5.4									
408	6.7	7.2	6.7	7.1	6.3	7.0	6.5	6.6	7.3	7.0	6.5	6.9	6.2	6.3	6.1									
420	10.1	10.5	8.9	10.8	9.7	10.5																		
425	6.6	7.1	6.2	7.2	6.5	6.4	6.7	6.9	7.1	6.6	6.7	4.9	6.7	6.7										
426	6.8	6.5	7.5	7.5	7.4	6.8	7.3	6.8	6.8	7.0	6.8	7.1	6.6	5.8	6.7	6.4	6.3	6.4						
427	7.5	D	7.6	8.0	7.5	8.2	7.0	7.8	7.6	7.1	7.0	7.1	7.2	7.6	8.0									
449	7.6	8.0	7.9	8.1	8.0	7.5	7.6	7.6	7.1	7.4	7.3	7.0	7.5											
450	7.2	D	7.4	7.1	7.6	6.7	7.7	7.2	7.2	6.6	7.9	7.5	6.9	6.7	7.1	6.8								
628	7.7	7.5	8.9	8.0	7.7	7.8	8.0	7.1	7.5	7.9	7.6	6.9	7.1											

MEAN 7.5  
S. D. 1.00  
N 25

D = DEAD PUP



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 2  
DAY 1

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310	6.6	6.7	6.5	7.1	5.8	5.6	6.9	7.1	6.7	7.1	6.9													
312	7.7	7.4	7.8	7.7	7.3	8.4	7.6	7.7	7.5	7.9	7.7	7.7												
313	7.6	8.0	8.2	7.4	7.7	6.9	7.1	8.2	7.5															
314	7.8	D	8.6	8.3	7.7	8.3	7.8	7.9	8.0	7.2	7.9	7.4	7.7	7.2										
324	7.7	7.6	7.8	8.1	8.4	8.3	7.7	7.9	8.0	6.6	7.4	7.1	7.3	7.3										
325	7.3	7.8	7.8	6.8	7.9	7.5	7.7	7.6	6.6	6.3	7.5	6.6	7.2	7.2										
329	7.8	7.9	8.0	8.5	8.4	6.9	8.5	7.9	8.1	7.6	7.6	7.2	7.7	7.7	7.8									
354	9.2	9.9	9.5	9.7	9.7	9.3	9.2	9.3	9.5	9.2	9.0	8.2	8.1											
363	7.6	D	D	D	D	8.3	8.0	8.7	8.4	8.1	6.8	7.1	7.2	6.7	7.1	7.7	7.6							
377	7.3	7.3	6.9	7.7	7.5	6.9	7.7	7.9	7.9	6.7	6.8	6.2	6.9	7.5	7.1	7.8								
397	7.3	D	8.6	7.7	7.2	7.8	7.8	7.2	7.1	7.2	6.9	7.1	7.4	6.6	7.2	6.8								
406	6.8	D	7.2	6.7	6.4	7.1	6.3	7.6	6.2	7.1	6.9	6.7	6.6	6.4	7.0	6.3	7.1							
409	7.5	7.3	7.5	7.7	7.6	7.5	7.9	7.1	7.1	7.7	7.8	7.2	7.1											
411	6.7	7.3	6.6	7.2	6.5	7.0	6.6	D	7.0	6.5	6.3	6.1	6.9	6.5										
413	7.1	7.0	8.1	7.6	7.5	7.7	7.1	6.0	7.0	7.3	7.8	6.9	7.1	6.6	7.2	6.2								
419	7.7	7.7	8.1	7.8	7.4	7.8	7.2	7.9	7.7	8.0	7.1	7.6	7.2	8.1	7.6									
422	7.3	7.0	7.6	7.3	7.3	7.7	7.3	7.8	6.7	8.0	7.6	6.2	6.8	7.2	7.6									
423	5.8	5.8	6.4	6.5	6.0	5.2	5.8	5.9	5.6	5.7	5.3	5.8	5.6	6.0	6.0									
428	7.5	D	7.4	7.8	7.6	7.9	8.0	8.0	7.6	7.0	7.5	7.7	6.3	7.2	7.7	7.3								
429	7.7	D	8.1	8.0	7.8	7.8	7.8	7.7	7.7	7.4	7.4	7.3	7.6	7.8	8.0									
430	6.2	6.1	7.1	6.3	6.7	6.4	6.0	6.6	6.0	5.5	5.7	6.1	6.0	5.6	5.8	6.4	6.4	6.0						
431	6.2	6.3	6.9	6.4	5.5	6.4	6.0	6.3	6.8	6.4	6.6	6.3	5.9	6.3	5.4	5.6	5.8							
440	7.0	7.0	7.2	7.6	7.4	7.3	6.9	7.0	7.3	6.9	6.9	5.8	7.3	6.7	6.8	7.5	6.1							
447	6.8	D	7.2	6.2	8.3	6.9	6.6	6.4	6.7	6.4	6.8	6.7	6.3	6.5	6.4	7.6	6.5	6.9						
629	7.2	7.3	7.0	7.1	6.9	7.8	7.6	7.5	7.5	7.4	7.4	6.6	7.5	6.8	7.3	7.0	7.6	6.8						

MEAN 7.3  
S. D. 0.68  
N 25

D = DEAD PUP

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX W  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304	7.3	D	7.9	7.8	7.6	7.1	7.1	7.4	6.9	7.4	7.3	7.5	7.3	6.9	6.6	7.2								
307	7.4	7.0	7.9	D	7.8	6.9	7.9	7.4	7.8	7.6	7.7	6.8	6.8	7.0	6.9									
332	11.0	11.2	11.2	11.3	11.2	10.2																		
338	7.0	7.2	7.4	7.4	7.1	6.9	7.1	7.1	6.7	7.0	6.8	6.9	7.5	7.1	5.8									
340	7.6	8.3	7.7	7.6	7.5	7.9	8.0	7.8	7.8	7.2	6.8	6.9												
342	8.5	8.8	8.9	9.1	9.1	8.3	7.4	7.6																
343	6.4	D	6.6	6.5	6.9	6.7	6.1	6.5	6.6	5.9	5.9	6.3	6.3	5.7	6.7									
351	8.0	D	D	D	9.1	8.7	7.6	8.3	8.0	7.5	6.9	7.5	7.8	7.2	8.4	9.2								
356	7.4	7.3	7.1	6.5	7.9	8.1	7.9	7.2	6.9	7.2	7.9	D	7.0	7.4	7.4	7.6								
357	7.4	8.1	D	6.9	8.4	7.7	7.7	7.3	6.9	7.6	7.0	7.4	7.8	5.9										
359	7.1	6.9	7.6	7.4	7.2	7.1	7.7	7.0	7.8	6.5	6.0	7.0	6.6	7.2	6.8	7.9	6.7							
367	7.7	D	8.0	8.0	8.0	7.7	8.0	7.9	8.1	7.6	7.3	6.9	7.3											
368	7.1	7.9	7.2	7.1	6.7	7.3	7.3	6.9	7.2	6.8	6.7	6.7	7.2	7.0	7.2									
372	7.1	7.2	7.5	7.4	6.9	7.3	7.6	7.2	6.2	6.8	7.1	7.0	7.1	7.2										
373	7.4	7.1	7.5	8.0	7.7	8.3	7.4	7.4	6.0	7.0	7.2	7.3	7.7	7.5	7.2									
382	7.6	7.4	8.0	7.4	7.9	7.5	7.2	7.7	7.5	7.6	7.4	7.6												
385	8.5	8.5	8.6	8.6	8.7	8.2	8.8	8.1																
404	7.2	7.9	7.3	7.9	6.3	8.6	8.4	6.7	6.1	7.9	5.4	7.1												
418	6.7	6.7	7.6	7.2	7.0	7.2	7.6	7.0	5.4	6.9	5.5	6.9	6.6	6.4	6.3									
421	7.4	7.7	7.9	7.9	7.6	7.6	7.6	7.1	6.4	7.3	6.8	7.5	7.4	7.6	D									
432	7.0	7.2	7.6	7.7	7.3	7.3	7.1	4.7	6.9	6.5	7.2	6.6	6.9	7.1	7.3	6.9	7.0							
439	7.8	8.5	7.8	8.2	8.6	7.8	7.8	8.2	8.1	6.7	7.4	7.3	7.9	7.1	7.3	7.7								
444	7.0	7.1	7.4	7.5	7.0	6.8	7.1	6.6	6.9	7.6	7.2	6.5	7.4	6.1	6.8	6.9	7.0							
445	6.6	7.2	6.9	7.0	7.3	6.3	6.6	6.4	6.6	6.6	6.4	6.2	6.2	6.2	6.2									
625	6.1	6.8	6.1	5.7	5.9	7.3	6.5	5.5	6.0	5.9	6.0	6.0	6.0	5.6										

MEAN 7.5  
 S. D. 0.93  
 N 25

D = DEAD PUP

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
-----																								
MEAN																								
303	6.2	6.5	6.9	6.5	6.4	5.6	6.6	6.2	5.7	6.0	5.5	6.0												
316	7.8	7.7	7.7	8.1	8.3	7.9	8.2	7.9	7.5	7.3	7.6	7.5	7.7											
326	7.4	7.3	7.6	7.7	7.4	8.0	7.7	7.4	6.3	7.3	7.4	7.4	6.9	7.5	7.0									
328	9.7	10.6	9.2	9.6	9.7	9.7	10.1	8.9	10.8	8.8	9.4													
330	7.6	8.1	7.1	7.7																				
344	8.0	7.8	8.5	8.1	8.3	8.1	7.4	7.1	8.1	8.0	8.3	8.3	7.7											
346	7.8	7.1	7.5	8.3	8.5	7.4	8.6	D	7.9	8.1	7.7	7.4	7.6	8.2	8.0	7.4								
347	7.4	D	8.3	7.0	8.2	7.3	7.9	7.9	7.5	8.1	7.2	7.5	6.7	7.0	5.5									
350	6.8	7.5	6.9	6.8	6.9	D	6.6	6.6	6.7	6.7	6.6	7.0	6.7											
360	7.3	7.4	6.9	7.3	7.6	7.5	7.2	8.1	7.4	8.1	7.6	7.3	7.5	7.3	7.4									
361	7.6	7.6	7.9	7.8	7.5	7.2	8.1	7.4	7.4	8.1	7.6	7.3	7.5	6.9	7.4									
365	7.9	8.5	8.0	7.9	7.9	8.0	7.8	8.2	7.9	7.8	7.2	7.4												
374	6.6	6.2	6.2	7.3	7.2	7.1	7.1	6.6	6.4	6.2	5.6	7.1	6.6	6.5										
375	7.3	7.5	6.9	8.0	7.4	7.2	7.6	8.0	7.2	7.2	7.0	7.4	7.4	7.1	6.8									
381	7.6	8.1	7.5	7.8	7.4	7.8	7.6	7.6	7.3	8.0	7.2	7.3	7.8	7.0	7.4									
389	7.1	D	8.3	6.9	7.6	7.4	6.8	6.2	6.7	6.5	6.9	6.3	6.7	6.6										
393	7.1	D	7.5	7.8	7.6	7.4	6.8	6.2	6.7	6.7	7.5	7.0	6.6	6.9	6.5									
398	8.0	D	8.8	8.8	7.9	7.8	8.0	7.5	7.7	8.5	7.8	8.2												
402	7.8	8.2	7.9	7.4	7.3	6.7	8.4	7.9	7.8	7.8	7.1	8.5	7.9	8.0	8.0									
410	7.2	7.4	7.6	6.8	7.6	7.0	8.0	7.0	7.4	7.2	7.3	7.3	6.9	7.2	5.8									
414	7.5	7.5	7.0	8.1	7.8	8.3	6.4	7.6	7.2	7.8	8.4	7.2	7.2											
416	7.1	7.4	7.6	7.4	7.6	5.8	7.4	7.4	7.5	7.3	6.2	6.9	6.7	6.6	7.1									
417	7.4	7.2	7.3	7.5	7.8	6.7	7.7	7.3	7.7	7.5	8.1	7.4	7.2	7.4	6.8	7.1	7.1							
436	8.0	7.6	8.8	7.9	8.7	8.3	8.0	7.6	7.6	8.0	7.5	7.8	8.0											
443	7.6	D	8.3	8.0	7.9	6.7	8.0	8.3	6.7	6.9	7.7	7.7												
451	6.9	7.3	7.2	6.9	6.8	7.3	7.1	7.3	7.2	6.5	6.6	7.0	6.8	6.8	6.5	7.0	6.8							

MEAN 7.5  
S.D. 0.64  
N 26

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D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 5  
DAY 1

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308	6.2	D	6.1	6.5	7.0	6.8	6.9	6.0	D	6.3	6.1	6.3	6.3	5.3	5.6	5.7	5.7							
318	8.0	8.4	8.4	8.1	7.5	8.1	7.7	8.0	7.4	7.9	7.8	8.1												
319	7.4	D	D	D	7.8	7.5	7.4	7.6	7.4	7.0	7.4	7.2	7.6											
327	8.1	8.3	8.8	8.0	7.9	7.7																		
331	6.5	6.8	6.2	6.8	7.0	6.4	6.5	6.1	6.6	7.1	6.7	6.4	6.7	6.3	6.2	6.2								
333	7.9	7.9	8.0	7.7	8.3	7.9	7.6	D	7.5	7.7	8.3													
336	8.0	8.8	7.9	8.1	8.8	8.5	8.4	8.0	7.0	7.4	8.0	7.9	7.2	8.2										
337	7.9	D	7.9	8.0	8.6	8.1	7.3	8.2	6.9	8.3														
352	7.7	D	8.7	8.5	6.5	7.7	8.0	8.3	8.2	7.6	7.1	6.9	7.7	7.4										
358	7.5	D	6.1	6.7	8.2	8.0	7.8	8.0	7.7	7.3	7.3	8.0	7.0	7.6	7.8									
362	7.5	8.9	8.2	7.6	8.0	4.7																		
364	7.0	7.4	7.2	7.1	7.3	7.6	6.7	7.0	7.3	6.5	7.2	6.1	6.8	6.4										
378	7.2	D	D	D	D	8.1	7.2	6.5	6.7	7.4	7.6	7.2	6.7											
394	6.3	6.5	6.3	6.3	6.3	6.5	6.9	6.3	6.3	6.4	6.2	6.4	6.0	5.8	5.7									
395	6.3	D	6.5	5.7	6.1	6.9	6.8	6.5	6.1	6.4	6.9	7.0	6.0	5.5	5.7	6.1								
396	8.0	6.0	8.6	8.2	8.7	8.0	7.7	8.4	8.8	7.8	7.8	8.1	7.9	7.7	8.5	8.3	7.5							
399	7.8	8.2	7.2	7.4	8.2	8.2	8.7	7.9	7.7	7.6	7.5	7.8	7.4	7.5	7.6									
405	8.5	9.0	8.2	9.0	9.1	9.3	7.6	7.7	8.1	8.7														
415	6.2	6.5	6.7	5.6	6.1	6.5	6.7	6.4	6.0	5.6	6.4	6.7	6.2	5.8	5.7	5.9	6.1							
434	8.6	9.0	8.9	9.4	8.7	8.1	9.2	9.5	5.6	7.9	9.5	8.8	7.2	10.0										
435	6.7	7.2	6.9	7.1	6.8	6.6	7.0	5.3	7.3	7.1	6.7	6.7	6.3	6.3	7.0	6.2								
437	9.7	9.3	10.4	10.4	9.7	10.3	10.1	9.0	9.3	9.3	8.8	D												
438	6.7	D	6.5	6.3	6.8	7.0	6.8	6.7	6.7	6.6	7.1	6.7	6.4	7.1	6.2	6.6	6.7							
441	8.3	8.2	8.6	8.4	8.6	8.7	8.5	8.4	7.6	8.1	8.1	7.6												
448	9.9	10.0	10.5	9.4	9.8																			
452	6.9	D	7.2	7.5	6.8	6.5	7.2	6.5	6.5	7.3	6.6													
626	7.4	6.0	8.4	7.1	7.5	7.0	7.6	7.3	8.2	7.6	7.1	7.0	7.6											
627	7.0	7.8	6.9	6.7	6.8	6.9	7.4	7.0	6.6	6.7	7.1	6.6												

MEAN 7.5  
S.D. 0.95  
N 28

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 6  
DAY 4

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
306	15.4	16.2	15.6	15.5	15.5	15.1	14.4																	
311	8.8	8.8	9.7	8.6	8.0	8.9	9.2	9.4	8.8	8.3	7.9	8.7	9.6	8.0	8.3	8.7	9.2							
317	9.5	9.7	9.1	10.0	9.3	8.6	8.9	10.1	10.2	9.7	9.9	10.0	9.1	9.0	9.1									
321	9.3	8.7	10.6	8.7	10.1	9.8	7.6	10.0	8.8	9.7	9.3	9.0	9.9	8.7	D									
323	10.0	D	8.7	10.0	9.8	10.3	11.7	10.6	9.5	8.8	9.6	10.6	9.7	9.3	10.2	10.9	10.2							
341	10.8	10.4	10.9	10.5	10.6	11.1	11.7	10.7	10.3	10.9	10.9	10.2	11.0	11.2										
345	12.1	12.7	13.2	11.6	12.1	11.7	12.1	10.8	12.9	12.0	13.4	10.0	12.8											
348	9.9	10.5	9.5	10.7	10.1	10.0	9.4	9.4	10.4	9.3	9.7	10.1	9.1											
353	10.1	D	9.0	10.0	10.8	10.7	10.4	10.2	9.0	9.9	10.0	9.5	10.4	10.6	10.2									
355	10.1	11.0	10.2	9.7	10.4	10.5	11.0	9.9	9.4	D	10.4	9.7	9.9	10.7	9.1	D	10.0							
371	14.7	15.1	14.8	14.4	14.4	14.9																		
380	9.6	10.3	9.6	9.5	9.9	10.8	9.8	9.9	8.9	9.9	8.9	9.0	8.5	10.0	9.3									
384	8.8	8.1	9.2	8.6	9.0	8.9	9.6	9.4	8.4	8.5	8.6	8.8	8.8	8.3										
388	10.1	10.6	10.8	10.3	10.7	10.8	10.7	10.2	9.7	9.7	9.3	10.2	9.0	8.9										
390	9.3	9.6	9.6	9.9	8.9	10.0	9.0	9.6	9.7	8.9	10.4	9.7	8.0	9.3	8.0	8.8	9.1							
400	11.7	D	12.2	11.7	11.9	11.9	12.4	12.0	10.8	11.1	11.8	11.2												
403	9.1	9.9	10.0	8.3	9.9	10.2	8.3	8.5	9.4	8.9	9.8	9.2	9.3	7.7	7.5									
408	8.9	9.5	9.3	9.1	8.6	9.1	7.8	9.2	9.2	9.0	9.1	8.7	9.2	8.3	9.1									
420	15.5	16.3	14.3	16.0	15.0	16.0																		
425	9.3	10.0	9.1	9.6	9.0	9.3	9.6	10.0	9.9	9.5	9.1	6.5	10.0	9.4										
426	8.8	8.5	10.0	9.5	8.8	9.0	9.0	8.6	9.0	8.9	8.4	9.3	7.9	8.3	9.1	8.5	8.3	8.7						
427	10.0	D	10.3	10.3	10.2	10.4	9.4	10.2	10.0	9.5	9.9	9.3	10.2	9.9	10.6									
449	11.1	11.3	12.1	12.1	12.1	11.0	10.8	10.7	10.4	10.7	11.0	10.6	10.7											
450	9.9	D	10.3	10.2	9.9	9.4	11.4	9.2	9.6	10.4	10.5	10.1	8.8	8.9	9.1	10.2								
628	10.3	9.6	12.2	11.1	9.9	10.8	11.4	9.9	9.8	10.2	9.7	8.3	10.4											

MEAN 10.5  
S. D. 1.96  
N 25

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 7  
DAY 4

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
-----																									
MEAN																									
310	10.2	10.3	10.4	10.9	9.2	9.0	10.1	11.1	10.2	10.2	10.9	10.2													
312	10.5	11.1	10.9	10.8	9.6	10.9	10.6	10.0	9.3	11.0	10.6	10.2													
313	10.5	11.7	11.6	10.6	11.0	8.6	10.0	10.1	10.0																
314	11.5	D	12.6	12.1	11.3	11.8	11.0	11.3	11.7	10.9	11.0	11.3	11.3	11.1											
324	11.0	10.5	9.8	11.6	11.9	12.3	10.8	12.7	12.7	10.2	10.5	9.8	11.3	9.2											
325	11.2	11.6	12.1	10.8	12.1	11.5	11.3	11.4	10.2	10.6	11.6	9.7	11.0	11.4											
329	11.7	12.6	11.3	12.7	12.9	10.9	12.4	11.7	11.5	11.6	11.2	10.9	11.4	11.3	11.4										
354	13.4	13.4	14.1	14.1	14.0	13.7	13.8	13.3	13.6	13.7	13.1	12.0	12.0												
363	10.2	D	D	D	D	11.0	10.9	10.9	11.1	10.7	8.3	9.9	10.3	9.3	9.4	10.3	9.9								
377	10.8	10.6	10.2	12.0	11.0	10.8	12.1	12.2	11.9	10.2	9.8	9.1	10.3	10.9	10.2	10.6									
397	10.9	D	11.7	12.5	10.9	11.2	11.8	11.2	10.6	10.9	10.5	10.3	10.6	9.1	10.6	10.2									
406	9.5	D	10.2	8.6	8.2	9.7	D	11.2	8.8	10.3	9.8	9.7	9.0	9.6	10.1	8.5	9.7								
409	10.6	11.1	9.5	10.9	11.4	11.3	10.1	10.1	10.7	10.9	10.1	10.9	9.7												
411	9.9	10.3	9.6	10.5	10.2	9.9	9.7	D	10.1	9.5	9.1	8.7	9.8	11.1											
413	10.3	9.4	11.4	10.3	10.8	9.9	10.9	8.6	10.3	10.9	10.7	9.9	10.5	9.4	11.0	9.7									
419	11.6	11.6	12.0	12.4	11.4	11.3	11.3	11.5	11.6	12.1	10.8	11.5	11.1	11.8	11.9										
422	10.3	10.0	11.2	11.0	10.7	10.5	10.5	11.5	9.0	11.3	10.3	9.1	9.3	10.1	10.3										
423	7.0	6.9	7.7	7.3	7.3	5.6	6.5	7.3	7.1	6.9	6.3	7.0	7.0	7.7	7.6										
428	10.6	D	10.5	11.5	11.0	11.4	10.7	10.9	10.8	10.6	11.1	10.0	9.8	9.5	10.6	9.9									
429	11.1	D	11.2	11.7	11.0	10.8	11.1	11.3	11.3	10.5	11.2	10.9	11.3	10.6	11.6										
430	8.9	8.9	9.9	9.0	10.2	9.0	8.3	9.2	9.0	7.6	7.3	8.3	9.2	8.6	8.3	9.1	10.1	8.8							
431	8.5	8.9	9.1	8.7	7.4	8.6	7.9	8.5	9.2	8.6	8.4	9.0	8.3	8.5	D	8.6	7.5								
440	9.7	10.5	9.4	9.9	10.2	11.0	9.6	10.1	10.7	9.6	9.9	7.5	9.9	9.4	8.9	10.5	8.8								
447	9.6	D	9.9	9.8	11.3	8.9	9.5	8.1	9.4	9.0	9.7	9.8	9.2	9.4	9.3	10.9	9.4	9.3							
629	9.9	9.6	10.7	9.1	10.3	10.6	10.3	9.4	11.2	11.1	10.4	9.4	10.7	8.8	9.4	10.0	8.6								

MEAN 10.4  
S. D. 1.21  
N 25

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 8  
DAY 4

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304	10.3	D	10.8	11.0	10.3	10.1	10.3	10.2	10.2	10.2	10.6	10.3	10.7	9.6	9.9	10.5								
307	11.0		10.4	12.0	D	11.6	10.8	12.0	10.9	11.7	11.0	11.6	10.5	10.3	9.3	10.5								
332	16.9		16.6	17.9	17.7	17.5	14.9																	
338	10.3		10.3	10.5	10.3	10.5	10.4	10.6	10.8	10.4	10.8	9.6	10.5	11.0	10.7	8.1								
340	11.2		12.4	11.4	11.7	10.6	12.1	11.3	11.6	10.8	10.8	10.8	10.0											
342	13.5		14.0	14.2	13.9	13.7	13.4	12.3	12.7															
343	9.7	D	10.3	10.0	10.4	10.1	9.3	10.1	10.5	8.9	9.3	9.5	9.7	8.3	9.8									
351	12.0	D	D	D	13.7	12.4	11.6	12.6	11.3	11.6	10.8	11.6	11.8	11.1	12.6	13.4								
356	10.8		11.5	10.3	9.2	11.8	10.3	12.3	10.4	10.2	9.7	11.6	D	11.0	11.3	9.8	11.1							
357	10.4		11.4	D	8.9	11.1	10.3	10.9	10.7	9.9	10.1	9.8	10.9	11.6	8.7									
359	9.3	D	9.6	9.4	9.2	9.2	10.2	9.2	10.7	8.5	7.7	8.3	9.1	8.9	9.1	10.2	9.9							
367	11.0	D	11.7	11.7	11.1	10.8	11.2	10.9	10.9	11.3	10.4	10.1	10.6											
368	10.2		11.3	10.7	10.4	9.2	10.8	11.1	10.0	11.2	9.0	10.7	8.4	9.3	9.8	11.1								
372	10.2		10.3	10.6	10.7	10.6	10.6	11.0	10.5	9.0	9.7	10.0	10.2	9.8	10.1									
373	10.8		10.8	10.7	11.5	11.7	11.6	10.9	11.1	8.6	10.7	10.5	10.5	11.2	10.5	11.4								
382	11.8		11.7	12.0	11.4	11.7	11.6	11.4	12.4	11.6	11.9	11.6	12.0											
385	12.7		12.6	12.4	13.0	12.9	12.4	13.2	12.6															
404	10.7		11.8	10.8	11.4	D	12.4	12.4	10.3	8.2	11.4	7.8	10.9											
418	10.0		10.0	11.0	10.9	11.0	11.0	11.2	10.2	7.5	10.7	7.4	10.3	10.0	10.3	9.1								
421	10.2		10.9	10.7	10.7	10.3	10.0	10.7	9.9	9.1	10.5	9.6	10.2	10.1	10.2	D								
432	9.1		9.5	9.9	10.6	8.7	9.8	9.3	5.9	8.7	8.6	9.2	7.2	9.1	9.5	10.3	10.3	9.4						
439	11.2		11.8	11.2	11.7	12.4	10.3	9.7	11.8	12.2	10.5	11.2	11.4	11.8	10.1	10.2	11.1							
444	9.8		9.7	10.5	11.0	8.4	10.6	9.5	9.5	9.0	10.0	9.4	8.9	11.0	9.5	10.1	10.4	9.9						
445	10.1		10.6	10.4	10.7	10.4	9.7	10.6	10.1	10.0	10.0	10.0	10.1	9.5	9.6									
625	10.2		10.9	10.4	9.6	9.8	11.7	10.6	9.6	10.0	10.4	9.9	10.0	9.6										

MEAN 10.9  
S. D. 1.60  
N 25

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 9  
DAY 4

APPENDIX W

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303	11.0	10.8	12.1	11.3	11.7	10.9	11.3	10.8	10.1	10.5	10.0	10.9												
316	11.6	11.3	11.8	11.9	13.2	12.1	11.5	11.1	10.6	11.1	11.0	11.5												
326	9.9	10.2	10.1	10.6	10.0	10.6	10.4	9.8	8.4	9.2	9.4	10.4	9.4	10.2	9.5									
328	13.6	14.2	13.2	14.0	13.8	13.6	13.8	12.8	15.0	12.5	13.5													
330	10.9	11.5	10.5	10.7																				
344	11.6	11.7	12.2	11.5	12.4	11.9	9.8	10.6	12.1	11.8	12.3	11.7	10.8											
346	11.0	10.4	10.9	11.2	11.6	10.4	12.1	D	10.2	11.6	11.1	10.8	10.4	10.3	11.1	11.6								
347	11.1	D	12.5	10.6	12.4	11.2	11.2	12.6	10.5	11.9	11.5	11.5	9.4	10.9	8.2									
350	9.7	10.8	9.4	9.5	10.6	D	10.2	8.9	9.9	9.7	8.4	8.8	10.0											
360	10.1	10.3	9.6	10.2	10.9	10.2	11.2	10.0	10.2	9.7	8.6	10.0	9.7	10.1										
361	9.7	10.5	10.2	9.6	9.7	8.6	10.2	9.7	9.6	9.8	10.1	9.3	10.2	8.9	10.0									
365	11.7	12.2	12.1	11.4	11.8	12.0	11.5	12.0	11.5	11.5	11.0	11.2												
374	9.5	9.5	8.8	10.3	10.4	10.3	10.0	9.4	9.1	8.9	8.4	9.5	10.0	9.0										
375	10.0	9.9	10.4	8.9	9.8	10.3	10.0	11.2	8.8	11.1	10.2	10.4	9.4	10.4	9.7	9.6								
381	10.7	11.6	10.4	9.9	11.0	11.2	10.3	10.8	11.5	11.4	11.3	10.0	9.9	10.9	9.8									
389	10.5	D	11.8	10.3	11.2	11.8	10.3	10.5	9.9	10.2	9.7	9.9	9.6											
393	10.8	11.0	11.3	11.7	10.7	11.8	10.8	9.4	10.4	D	11.3	10.8	9.9	11.0	10.2									
398	11.5	D	12.4	11.4	10.9	11.6	11.2	11.6	11.9	10.5	11.9													
402	10.8	11.3	10.7	10.5	10.2	9.7	10.9	11.0	11.1	11.3	10.8	11.5	11.3	11.2	10.2									
410	10.6	10.9	11.0	10.4	11.0	9.6	11.7	10.0	10.4	11.6	10.2	10.4	11.1	10.4	9.0									
414	10.8	10.8	10.6	12.3	10.3	11.8	9.3	9.6	10.4	11.0	12.5	10.6	9.8											
416	10.6	11.7	11.1	10.7	11.1	9.0	11.0	10.6	11.5	11.3	9.9	10.8	9.9	9.8	10.6									
417	10.2	10.6	10.6	10.8	10.1	9.8	10.9	10.2	10.5	11.0	11.3	9.6	9.6	9.6	9.7	10.4	9.7	8.6						
436	11.2	11.0	12.3	10.7	11.9	11.3	10.8	10.7	11.0	11.5	11.0	11.2	11.3											
443	10.5	D	10.8	11.3	10.2	9.7	11.2	10.9	9.9	9.7	10.6	10.7												
451	10.1	10.7	10.3	10.1	11.1	10.3	10.4	10.8	10.7	10.0	9.9	10.2	9.8	9.5	9.0	10.2	9.3							

MEAN 10.8  
S.D. 0.85  
N 26

D = DEAD PUP



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 10  
DAY 4

APPENDIX W

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308	7.3	D	7.0	7.9	8.5	D	8.9	7.4	D	7.2	6.1	7.8	7.9	5.2	7.5	7.6	6.2							
318	10.8	12.3	11.4	10.7	10.3	11.0	10.5	a	10.1	10.5	10.3	10.9												
319	11.8	D	D	D	12.4	11.9	12.1	11.9	12.1	11.2	11.6	11.4	11.7											
327	13.0	12.9	14.1	12.8	13.0	12.1																		
331	8.5	9.2	8.9	9.7	8.7	8.0	8.0	8.6	8.5	9.7	8.3	6.6	9.1	8.9	6.8	8.1								
333	11.6	11.9	10.7	10.7	12.4	12.0	11.2	D	11.0	11.8	12.4													
336	11.1	11.8	11.2	11.0	11.7	11.2	11.0	11.3	10.4	10.3	11.8	10.5	10.5	11.1										
337	11.8	D	11.7	12.0	12.5	12.5	10.8	12.5	10.0	12.4														
352	10.9	D	12.2	12.2	9.7	9.4	11.2	11.9	11.3	10.8	9.9	10.2	10.6	11.0										
358	11.0	D	9.2	10.6	11.9	11.9	11.9	11.5	10.4	10.9	10.9	11.5	10.0	10.8	11.2									
362	10.7	13.1	11.2	11.5	10.8	7.1																		
364	9.4	10.1	10.9	10.0	10.0	9.7	8.4	8.8	9.1	8.8	9.2	9.5	8.0	9.7										
378	11.0	D	D	D	D	11.9	10.9	10.6	10.6	11.2	11.5	11.0	10.5											
394	8.9	9.5	9.5	8.6	8.6	9.3	9.4	9.4	8.4	8.9	8.9	8.7	8.8	8.2	8.5									
395	8.5	D	8.4	7.9	8.1	8.8	9.4	9.0	8.0	8.5	9.0	9.4	8.3	7.1	8.0	8.5								
396	11.4	8.5	11.7	11.8	12.2	12.0	11.4	12.4	12.7	11.0	11.7	11.3	11.6	10.4	11.5	11.4	10.7							
399	11.0	11.3	10.2	10.7	12.2	11.3	11.4	11.1	10.4	10.8	10.5	11.6	10.7	11.1	10.9									
405	13.2	14.0	12.8	13.8	14.1	13.9	11.6	12.6	12.0	13.8														
415	8.2	8.7	8.8	6.5	8.6	8.4	8.2	8.4	8.2	7.9	7.8	9.0	8.7	8.3	7.3	7.4	8.8							
434	12.5	13.7	13.0	13.6	12.4	11.9	13.5	13.4	8.3	D	13.5	12.7	10.6	13.6										
435	8.7	9.5	8.9	9.2	7.9	8.9	9.1	7.0	9.4	9.6	8.2	9.2	7.8	8.1	8.9	8.3								
437	14.7	14.3	15.9	15.3	14.4	15.7	15.2	14.1	14.4	14.2	13.3	D												
438	9.9	D	9.9	9.9	9.7	9.3	9.9	9.4	10.4	10.1	10.1	9.7	8.8	10.1	9.8	10.4	10.3							
441	12.4	12.2	13.0	12.0	11.8	13.3	12.8	12.3	11.0	13.1	12.7	11.9												
448	15.4	15.7	15.6	14.5	15.7																			
452	9.3	D	9.8	9.9	9.0	9.3	8.7	9.0	9.0	9.8	9.3													
626	10.4	D	11.1	9.9	11.0	10.5	10.3	10.0	11.0	9.9	10.4	9.7	10.6											
627	9.3	10.3	8.8	9.0	9.0	9.8	9.8	9.2	9.3	8.9	9.4	8.8												

MEAN 10.8  
S.D. 1.93  
N 28

D = DEAD PUP  
a PUP WEIGHT WAS NOT OBTAINED DUE TO TECHNICAL ERROR.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 11  
DAY 7

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
306	20.8	21.5	20.9	20.6	21.1	20.7	19.9																		
311	13.9	C	14.8	C	12.8	C	14.5	14.8	C	C	13.0	C	15.5	13.0	13.0	C	C								
317	15.2	15.3	C	14.7	14.3	C	16.5	C	C	C	15.6	15.7	14.7	14.8	C										
321	14.8	13.9	17.3	14.7	16.0	C	12.6	C	14.1	C	14.6	14.9	C	C	D										
323	16.7	D	14.0	17.3	C	17.4	19.2	C	C	C	C	C	15.9	15.6	17.3	C	17.2								
341	16.6	C	C	16.1	C	16.3	17.8	16.5	C	16.1	16.8	15.8	C	17.0											
345	20.0	20.6	20.8	C	19.2	19.0	19.2	C	20.6	19.6	20.7	C	C												
348	15.6	16.5	15.0	16.7	15.3	C	C	15.3	16.1	14.6	C	C	C	15.3											
353	16.3	D	D	15.0	C	17.7	17.4	C	17.2	15.1	C	16.5	14.9	C	C	16.5									
355	16.7	18.4	16.3	C	C	16.7	17.9	C	C	D	16.9	16.6	C	16.2	14.8	D	C								
371	21.9	22.7	21.8	21.7	21.7	21.8																			
380	15.0	16.3	14.6	C	14.9	C	C	15.0	C	15.3	13.8	C	C	15.8	14.4										
384	14.4	C	15.0	C	14.8	14.5	C	C	13.6	13.9	14.8	C	14.5	13.8											
388	15.8	16.3	C	16.2	16.6	16.0	16.4	15.9	C	14.8	C	C	C	13.9											
390	15.5	16.5	15.9	C	14.5	C	15.8	C	C	16.0	C	15.6	C	C	14.2	15.3	C								
400	17.7	D	C	17.6	18.9	18.9	17.3	C	18.0	18.7	16.2	15.7													
403	15.4	C	16.2	14.7	16.9	C	14.7	C	C	C	16.4	15.4	15.5	13.1	C										
408	14.2	15.3	C	13.9	13.7	C	C	C	C	14.2	C	14.2	C	14.6	13.9	13.5									
420	22.5	22.9	21.8	23.2	21.9	22.8																			
425	14.7	15.4	C	15.2	C	C	C	15.6	15.7	15.2	C	9.8	15.8	14.7											
426	14.3	C	C	C	14.7	14.9	C	C	14.7	C	14.4	C	C	C	14.3	13.8	14.0	13.8							
427	15.5	D	16.1	C	16.1	17.4	14.8	C	C	14.3	C	14.4	16.3	C	14.8										
449	17.8	18.1	18.6	19.4	C	17.7	C	17.1	17.1	C	C	17.3	17.3												
450	15.1	D	C	C	16.2	13.4	16.5	C	15.3	C	C	C	14.2	15.2	15.4	14.3									
628	15.6	15.5	C	15.7	15.6	C	17.1	15.5	C	15.8	C	13.0	16.8												

MEAN 16.5  
S. D. 2.40  
N 25

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 12  
DAY 7

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310	15.7	15.9	16.1	17.0	14.0	C	C	15.9	15.1	15.9	15.6													
312	15.9	C	C	16.7	15.2	17.2	15.8	15.1	15.4	16.7	C	15.4												
313	14.5	16.8	13.9	15.1	16.1	12.9	13.2	13.3	14.8															
314	17.6	D	19.5	18.8	C	18.7	C	17.1	C	14.9	17.2	C	17.5	16.7										
324	17.8	16.5	15.8	C	19.1	19.9	C	19.9	C	16.7	C	16.3	18.3	C										
325	18.3	19.3	19.1	C	C	19.3	C	C	17.4	17.5	C	16.3	18.3	19.2										
329	19.1	C	C	C	21.2	18.8	C	18.8	19.7	C	18.9	18.1	19.1	18.3	C									
354	20.9	21.3	22.5	C	22.0	21.6	C	C	21.2	C	20.9	19.2	18.7											
363	16.1	D	D	D	16.8	17.0	C	17.1	16.8	12.9	15.4	15.8	C	C	16.6	C								
377	19.2	18.7	18.7	C	C	19.9	C	C	21.0	17.9	C	C	18.9	19.6	C	18.8								
397	18.1	D	19.1	C	18.2	19.2	19.2	C	C	C	C	16.9	18.1	C	17.1	16.9								
406	16.5	D	17.2	17.2	14.3	16.7	D	18.1	C	C	C	C	C	16.6	16.5	15.2	C							
409	16.3	C	C	15.8	C	17.8	16.1	16.4	C	15.8	15.9	17.1	15.8											
411	16.8	17.6	16.6	18.0	C	C	16.8	D	17.2	16.6	16.2	15.4	C	C										
413	16.7	15.8	19.0	C	17.5	16.6	C	14.0	C	17.2	17.6	15.8	C	C	C									
419	18.5	C	C	C	19.1	C	C	18.7	18.7	C	17.7	18.8	17.3	18.8	18.5									
422	18.0	17.7	19.4	19.2	17.9	C	C	C	C	18.8	C	15.9	C	17.5	17.9									
423	10.9	8.4	C	12.7	C	D	C	11.8	12.9	11.3	D	C	8.2	C										
428	16.2	D	C	16.7	C	C	C	16.5	16.9	16.5	C	15.7	14.9	C	16.6	15.8								
429	18.3	D	18.3	18.2	C	C	19.0	18.0	18.2	C	C	17.5	17.9	C	19.0									
430	14.1	C	15.7	14.1	C	C	13.9	14.9	C	C	11.5	C	14.6	C	14.1	C	C	13.8	12.2					
431	13.5	C	C	14.3	13.1	C	13.8	13.7	C	C	C	13.3	13.5	C	D	13.8	12.2							
440	15.3	C	13.7	C	16.6	C	16.0	C	17.3	13.5	C	14.1	C	C	14.1	17.2	C							
447	15.3	D	15.8	15.0	17.8	15.0	C	C	C	15.0	C	C	13.9	C	15.3	C	C	14.7						
629	16.8	C	C	C	18.8	16.4	16.4	17.9	C	C	C	17.0	C	16.0	C	16.2	C	15.6						

MEAN 16.7  
S. D. 2.10  
N 25

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX W  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304	16.6	D	C	C	17.0	16.1	16.4	17.1	16.6	C	C	16.9	C	16.0	16.6	C								
307	17.6	C	19.8	D	C	17.8	C	17.7	19.3	C	C	17.6	17.2	15.0	16.5									
332	24.3	24.7	26.0	25.0	24.5	21.4																		
338	17.6	17.4	18.2	17.8	C	17.8	C	C	17.7	17.8	16.5	17.5	C	C	C									
340	18.1	19.9	C	17.4	C	19.6	18.3	19.1	C	16.5	17.6	16.3												
342	20.0	21.0	20.8	21.4	20.1	19.8	18.4	18.3																
343	15.8	D	C	16.1	17.0	C	15.7	16.6	C	15.4	15.4	C	C	14.1	16.2									
351	20.4	D	D	21.8	20.0	C	20.7	18.4	C	C	19.6	20.4	C	20.8	21.7									
356	17.8	18.1	17.9	15.4	19.5	C	C	C	17.0	16.9	19.8	D	C	C	17.5	C								
357	16.5	17.6	D	14.6	18.0	16.5	C	17.0	16.1	15.9	16.3	C	C											
359	15.4	D	C	14.9	14.5	C	C	14.8	15.9	C	C	C	C	14.9	15.4	17.1	15.8							
367	16.7	D	17.5	17.5	16.9	C	16.7	16.2	16.5	C	16.0	C	16.3											
368	15.9	C	15.3	17.8	12.9	C	17.1	16.4	C	C	17.1	14.2	C	C	16.7									
372	16.4	C	C	16.6	16.6	16.3	17.4	17.2	14.3	15.8	C	16.8	C	C										
373	17.1	16.5	16.9	C	19.3	C	17.2	17.9	13.6	C	17.8	C	C	C	17.3									
382	18.0	17.8	18.1	17.6	18.1	C	C	C	18.1	17.9	18.3	18.1												
385	18.1	18.2	17.7	17.5	17.4	18.3	19.7	17.8																
404	17.2	19.3	17.4	18.5	D	19.6	C	15.7	12.1	18.2	C	16.7												
418	15.9	C	17.3	16.6	17.4	16.8	C	15.5	11.9	16.5	C	C	15.3	C										
421	16.5	C	17.0	17.3	16.3	C	C	16.3	C	16.8	C	16.2	16.1	15.7	D									
432	14.0	C	C	17.1	12.9	16.5	16.0	9.5	C	C	15.0	10.8	14.3	C	C	C								
439	18.2	C	17.8	18.8	C	C	16.8	20.0	19.0	C	C	17.9	C	C	17.4	18.2								
444	16.6	16.5	17.2	C	14.5	17.3	C	C	C	17.0	15.9	C	C	C	17.4	C	16.8							
445	16.9	17.5	17.2	17.8	C	C	C	C	C	17.0	16.5	16.8	16.3	16.4										
625	16.5	16.7	16.7	C	C	18.3	16.8	C	16.3	16.4	15.6	C	15.3											

MEAN 17.4  
S. D. 1.98  
N 25

D = DEAD PUP, C = CULLED PUP

APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303	17.8	17.7	19.3	18.7	C	C	18.0	17.1	C	17.4	16.7	17.4												
316	17.9	18.1	17.7	18.7	C	C	18.7	C	C	16.9	17.2	17.7	17.8											
326	15.8	C	16.1	16.2	C	16.7	16.0	C	C	15.2	15.1	C	C	15.9	15.3									
328	20.5	22.4	C	19.5	21.7	21.3	C	18.2	20.2	19.5	21.2													
330	14.9	15.1	14.7	15.0																				
344	18.0	C	19.1	18.3	C	18.5	16.8	C	18.4	17.2	C	18.1	17.3											
346	19.0	C	C	C	20.4	19.7	C	D	C	20.0	19.1	C	17.9	17.2	18.3	19.7								
347	17.4	D	C	C	C	18.0	19.2	19.7	17.1	C	C	18.3	15.7	17.4	13.5									
350	15.1	C	14.5	C	16.7	D	16.2	14.8	C	15.2	13.8	13.7	15.7											
360	17.3	C	C	17.3	18.6	16.8	18.9	C	17.1	16.7	15.5	17.3	C	C										
361	15.9	C	C	C	16.8	14.3	C	C	15.9	16.7	16.6	14.4	C	15.0	17.2									
365	17.6	C	C	17.6	C	18.6	18.0	17.7	C	17.4	17.4	17.0	17.1											
374	13.9	13.3	12.8	C	14.8	15.1	C	14.4	13.5	13.1	C	14.1	C	C										
375	16.8	16.9	15.3	C	C	16.8	17.3	C	C	C	17.4	C	16.1	17.9	16.3	C								
381	16.2	C	16.9	15.5	17.1	C	C	17.4	C	C	16.1	15.9	15.6	C	15.0									
389	16.4	D	17.5	15.2	17.7	18.2	C	16.5	15.9	15.2	C	15.1	C											
393	17.7	C	C	17.7	18.2	19.6	17.6	C	16.3	D	C	18.0	C	17.6	16.9									
398	17.4	D	D	18.3	C	16.7	17.5	17.3	17.2	17.8	16.6	17.7												
402	16.8	C	17.0	C	16.1	15.6	16.8	C	C	C	16.0	C	17.8	17.5	17.2									
410	17.0	C	C	C	17.2	15.9	C	16.3	17.4	C	17.2	17.6	17.0	17.5	C									
414	16.3	C	16.4	C	15.7	19.1	14.7	15.2	16.3	17.5	C	C	15.8											
416	17.8	18.8	18.9	18.1	18.6	14.4	C	C	19.0	18.3	C	C	16.2	C	C									
417	16.7	C	C	16.2	18.0	C	17.8	C	16.7	C	19.0	14.8	C	16.7	C	C	14.5							
436	17.2	17.2	18.8	15.4	18.0	C	16.9	C	17.3	C	C	17.6	16.5											
443	15.9	D	D	16.4	16.6	15.4	C	C	16.4	15.1	15.5	16.0	15.6											
451	16.9	17.9	C	16.8	17.8	17.2	C	C	C	16.7	C	C	15.7	C	17.0	16.2								

MEAN 16.9  
S.D. 1.32  
N 26

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 15  
DAY 7

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							

308	9.9	D	8.7	10.1	C	D	11.1	9.3	D	C	C	11.2	C	C	10.8	10.9	7.1							
318	16.5	18.9	17.7	16.7	15.1	C	15.4	16.6	15.7	C	15.8	C												
319	17.8	D	D	18.4	17.9	17.9	18.2	18.2	C	17.3	17.1	17.2												
327	20.1	19.8	20.8	19.9	20.4	19.4																		
331	14.6	C	C	14.9	13.7	13.7	14.0	14.8	14.3	16.0	C	C	C	15.1	C	C								
333	16.2	16.3	16.0	14.7	17.0	17.0	16.1	D	15.5	C	17.3													
336	17.8	C	18.7	16.9	18.3	18.6	C	17.6	17.4	17.8	C	C	16.8	C										
337	17.8	D	18.0	18.1	19.1	18.8	16.3	17.6	15.6	18.6														
352	17.8	D	19.2	C	C	C	18.5	17.6	18.7	18.1	C	15.8	17.5	17.3										
358	17.6	D	C	17.0	19.0	18.5	C	C	17.1	17.1	C	C	16.0	17.4	18.5									
362	15.1	16.7	16.5	15.9	15.8	10.6																		
364	15.3	C	17.1	15.8	C	14.8	13.8	C	14.9	C	15.3	15.4	C	15.1										
378	14.3	D	D	D	15.0	14.0	13.6	14.3	13.7	15.0	14.7	13.8												
394	14.9	15.6	C	14.3	C	15.9	15.7	C	C	15.0	C	15.0	C	13.9	14.0									
395	13.1	D	C	12.5	12.8	13.4	15.2	C	C	12.9	C	C	13.0	10.7	C	14.0								
396	17.8	14.6	18.7	C	19.7	C	C	C	C	19.9	17.3	C	17.8	C	C	18.4	16.1							
399	18.0	C	16.9	17.6	19.8	C	19.2	C	C	17.3	C	17.5	17.9	18.1										
405	19.4	C	19.1	20.3	20.4	20.2	17.7	19.1	18.0	20.2														
415	13.5	14.1	14.3	C	C	C	13.5	14.2	C	12.8	C	C	13.5	13.2	12.0	C	C							
434	19.9	C	20.2	21.9	C	C	20.5	20.6	13.4	D	21.5	19.6	C	21.1										
435	13.6	14.6	C	14.2	12.4	C	C	C	15.2	C	C	C	12.8	12.8	14.3	12.5								
437	21.8	21.2	22.7	22.8	C	22.6	21.9	C	21.5	21.0	20.5	D												
438	16.6	D	16.5	15.8	C	17.2	C	16.3	C	C	16.3	C	C	16.3	C	17.1	16.5	17.4						
441	18.7	18.8	20.1	19.4	18.5	C																		
448	22.9	23.0	23.8	21.0	23.7																			
452	12.7	D	13.5	C	12.1	12.4	11.8	12.7	12.1	13.7	13.2													
626	16.6	D	17.8	15.6	17.0	16.4	C	C	17.5	15.3	16.3	C	17.1											
627	14.6	C	14.6	C	14.8	C	15.3	14.0	14.1	14.2	15.3	14.6												

MEAN 16.6  
S.D. 2.88  
N 28

D = DEAD PUP, C = CULLED PUP

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

DAM NO. PUP NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
MEAN

306	36.8	38.6	35.9	36.6	37.8	36.4	35.4																
311	29.8	C	32.6	C	28.1	C	31.7	30.9	C	27.8	C	31.6	28.6	27.2	C	C							
317	31.4	32.1	C	31.0	30.9	C	31.4	C	C	32.8	32.1	30.4	30.7	C									
321	32.1	32.6	34.6	32.5	34.7	C	30.4	C	26.3	C	32.0	33.4	C	C	D								
323	34.1	D	31.6	35.1	C	33.9	38.4	C	C	C	C	32.9	33.5	33.6	C	33.8							
345	37.7	39.4	37.4	C	36.4	37.2	37.1	C	38.6	36.6	38.9	C	C										
348	33.5	34.9	32.7	34.9	32.4	C	C	33.0	34.0	33.7	C	C	32.7										
353	34.6	D	33.7	C	37.1	35.5	C	36.0	32.4	C	34.3	32.6	C	C	34.9								
355	34.3	37.0	34.1	C	C	33.4	35.2	C	C	D	34.0	33.7	C	34.4	32.6	D	C						
371	41.4	43.0	40.8	41.7	41.2	40.5																	
380	32.3	32.5	32.0	C	31.9	C	C	33.7	C	32.3	31.2	C	C	33.9	30.9								
384	32.4	C	33.5	C	32.3	33.1	C	C	31.4	31.1	33.1	C	33.2	31.8									
388	32.2	33.1	C	33.4	33.0	31.6	33.1	32.3	C	31.5	C	C	C	29.4									
390	34.1	33.9	34.7	C	33.9	C	35.3	C	C	34.6	C	34.0	C	C	32.0	34.6	C						
400	32.8	D	C	33.1	34.1	32.4	34.6	C	31.3	33.5	31.8	31.4											
403	33.5	C	35.1	32.7	35.9	C	33.0	C	C	C	34.2	33.0	33.4	30.6	C								
408	29.3	30.2	C	28.8	28.7	C	C	C	29.8	C	29.6	C	29.5	29.2	28.2								
420	38.9	41.5	38.1	37.7	38.8	38.3																	
425	29.0	29.3	C	30.4	C	C	C	30.8	30.5	30.9	C	21.8	29.8	28.8									
426	31.3	C	C	C	32.5	32.7	C	C	31.9	C	31.8	C	C	C	31.5	29.8	29.1	30.7					
427	33.8	D	35.8	C	34.7	36.3	30.8	C	C	35.2	C	30.7	35.4	C	31.4								
449	37.8	38.0	38.4	39.7	C	38.4	C	36.3	36.7	C	C	37.5	37.0										
450	34.4	D	C	C	34.8	32.2	36.5	C	34.0	C	C	C	34.1	34.3	35.1	34.4							
628	33.1	33.5	C	32.7	32.9	C	34.9	32.7	C	32.6	C	C	30.2	35.1									

MEAN 33.8  
S.D. 3.01  
N 24

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310	30.6	30.2	32.0	31.7	28.7	C	C	31.2	29.5	32.0	29.6													
312	32.4	C	C	32.6	32.4	34.0	33.2	31.2	30.7	32.1	C	33.2												
313	29.1	32.6	28.5	30.5	29.5	27.1	26.8	28.4	29.4															
314	31.7	D	38.0	36.8	C	37.4	C	34.8	C	34.5	3.0	C	36.3	33.1										
324	35.1	31.9	32.3	C	37.1	37.3	C	37.8	C	33.7	C	34.6	36.3	C										
325	36.6	38.7	38.8	C	C	36.4	C	C	35.1	35.1	C	34.6	37.0	37.3										
329	37.7	C	C	C	40.7	37.1	C	36.7	37.8	C	37.9	36.9	38.1	36.0	C									
354	39.9	40.6	41.9	C	41.6	41.4	C	C	38.9	C	39.7	38.7	36.1											
363	33.2	D	D	D	35.6	33.9	C	35.0	34.6	29.2	30.3	33.3	C	C	33.9	C								
377	38.3	38.6	36.8	C	C	38.0	C	C	40.2	37.2	C	C	37.9	38.3	C	39.3								
397	35.9	D	38.3	C	35.9	37.9	36.6	C	C	C	C	35.1	35.0	C	34.6	33.5								
406	33.7	D	35.6	32.1	31.5	34.4	D	36.7	C	C	C	C	C	33.2	33.9	31.9	C							
409	33.8	C	C	34.6	C	35.8	31.4	34.3	C	32.8	34.1	34.7	32.4											
411	34.6	34.7	34.6	36.9	C	C	35.0	D	34.3	34.1	33.0	33.8	C	C	C									
413	35.8	34.1	38.7	C	37.7	35.8	C	31.7	C	35.5	36.7	35.8	C	C	C									
419	36.1	C	C	C	35.8	C	C	36.8	36.6	C	35.8	35.7	33.9	36.7	37.6									
422	35.7	35.3	37.0	37.2	35.8	C	C	C	C	37.0	C	33.0	C	35.6	34.5									
423	29.3	D	C	30.1	C	D	C	30.8	32.0	30.1	D	C	23.6	C										
428	33.8	D	C	34.5	C	C	C	33.4	34.5	35.4	C	32.7	31.0	C	34.8	33.7								
429	36.0	D	36.4	35.3	C	C	37.2	36.3	36.5	C	C	34.1	35.5	C	36.4									
430	30.7	C	32.4	30.5	C	C	31.9	31.0	C	C	27.4	C	31.8	C	29.8	C	C	30.6						
431	31.1	C	C	32.3	30.9	C	30.6	32.2	C	C	C	30.7	32.1	C	D	31.8	28.4							
440	33.0	C	30.5	C	34.8	C	34.4	C	35.5	31.6	C	30.1	C	C	31.7	35.3	C							
447	33.1	D	33.6	33.2	35.9	32.5	C	C	C	33.3	C	C	30.9	C	33.8	C	C	31.8						
629	36.9	C	C	C	39.7	36.1	37.1	38.7	C	C	C	36.7	C	35.3	C	34.9	C	36.3						

MEAN 34.2  
S. D. 2.80  
N 25

D = DEAD PUP, C = CULLED PUP



APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
304	34.4	D	C	C	35.5	32.9	34.0	34.7	35.6	C	C	34.7	C	33.8	34.1	C									
307	36.6	C	39.7	D	C	35.9	C	37.2	38.6	C	C	36.8	35.6	32.7	35.9										
332	43.9	44.5	46.1	44.9	43.9	40.3																			
338	34.8	34.9	34.8	35.5	C	35.6	C	C	34.9	35.4	33.7	33.9	C	C	C										
340	35.8	38.0	C	35.6	C	36.3	36.7	36.8	C	34.2	34.7	33.8													
342	39.1	40.9	40.2	41.0	39.7	37.9	37.3	36.8																	
343	32.2	D	C	31.3	32.1	C	32.8	34.1	C	32.2	31.9	C	C	29.2	34.1										
351	41.5	D	D	43.6	41.8	C	41.5	39.0	C	40.1	41.5	C	C	42.5	42.0										
356	35.5	36.7	37.0	33.2	37.7	C	C	34.5	34.1	36.6	D	C	C	34.2	C										
357	31.3	31.7	D	28.7	34.1	31.1	C	32.5	31.1	31.1	30.2	C	C												
359	33.8	D	C	33.7	30.8	C	C	34.6	35.2	C	C	C	C	32.5	32.9	35.8	34.6								
367	35.4	D	36.9	36.5	35.7	C	35.5	34.1	35.0	C	34.0	C	35.2												
368	32.7	C	32.7	35.4	30.5	C	35.1	31.1	C	C	33.0	30.9	C	C	33.1										
372	33.1	C	C	34.5	34.4	31.8	34.2	34.0	30.8	32.2	C	32.6	C	C											
373	35.3	34.7	35.9	C	38.2	C	36.0	36.6	29.2	C	35.5	C	C	C	35.9										
382	35.5	36.0	36.1	35.1	34.9	C	C	34.6	36.3	35.2	35.8														
385	34.3	34.7	34.4	35.3	34.0	33.0	35.1	33.8																	
404	32.5	35.8	32.8	35.1	D	36.3	C	30.4	22.3	34.7	C	32.4													
418	33.2	C	36.2	33.4	35.7	34.3	C	31.8	27.8	33.6	C	C	32.4	C											
421	33.4	C	34.6	35.7	32.5	C	C	34.1	C	33.7	C	32.7	32.5	31.7	D										
432	30.7	C	C	34.0	29.9	31.6	32.8	24.3	C	C	31.1	31.0	30.9	C	C	C									
439	35.5	C	36.1	37.7	C	C	33.3	37.8	37.0	C	C	34.1	C	C	33.7	34.0									
444	33.7	33.2	34.5	C	32.4	34.6	C	C	C	31.9	33.6	C	C	C	35.1	C	34.4								
445	34.9	35.9	35.3	35.6	C	C	C	C	C	34.7	35.0	34.3	34.2	33.9											
625	32.2	34.3	32.5	C	C	35.9	32.0	C	32.4	31.3	29.3	C	30.0												

MEAN 34.9  
S. D. 2.99  
N 25

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX W  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303	36.5	37.3	38.3	37.1	C	C	37.1	36.3	C	35.7	34.1	36.1												
316	35.5	34.6	36.1	37.4	C	C	36.9	C	C	34.0	34.3	35.1	35.5											
326	31.2	C	30.6	32.7	C	32.1	31.7	C	C	30.0	30.5	C	C	31.0	30.7									
328	36.9	39.2	C	35.8	37.9	36.3	C	36.0	37.8	36.0	36.4													
330	28.6	27.1	29.9	28.8																				
344	35.4	C	36.3	a	C	35.9	33.9	C	36.2	34.0	C	36.8	34.9											
346	37.9	C	C	C	41.5	40.3	C	D	C	38.9	38.4	C	36.0	34.0	37.0	37.2								
347	34.4	D	C	C	C	34.6	37.6	36.4	34.2	C	C	35.3	32.2	34.0	30.8									
350	31.2	C	26.3	C	29.3	D	34.0	32.7	C	32.7	31.5	30.3	33.0											
360	33.7	C	C	33.3	36.5	33.6	37.0	C	32.5	33.4	30.6	32.5	C	C										
361	34.8	C	C	C	36.2	32.0	C	C	35.1	36.6	36.6	31.9	C	32.8	36.9									
365	35.2	36.0	C	C	36.5	36.4	35.1	C	34.9	35.1	33.2	34.3												
374	30.7	29.6	29.4	C	32.3	32.1	C	31.4	30.0	29.3	C	31.8	C	C										
375	36.3	36.3	34.1	C	C	36.6	36.7	C	C	C	37.1	C	36.6	37.2	35.5	C								
381	33.6	C	35.3	32.4	35.2	C	C	34.7	C	C	33.8	32.7	32.9	C	31.9									
389	30.8	D	32.5	31.0	31.1	32.2	C	30.9	30.6	29.7	C	28.6	C											
393	35.4	C	C	37.4	36.7	37.7	35.1	C	33.6	D	C	34.4	C	36.1	32.4									
398	33.3	D	D	34.9	C	32.4	34.0	33.2	33.1	33.9	31.6	33.5												
402	34.2	C	34.9	C	33.4	33.3	35.9	C	C	C	31.2	C	35.7	34.9	34.6									
410	32.5	C	C	C	31.9	30.3	C	31.3	31.7	C	34.4	32.9	34.3	32.8	C									
414	34.3	C	36.8	C	31.0	39.8	32.2	28.7	35.3	36.1	C	C	34.8	C	C									
416	36.2	36.3	38.5	36.4	38.3	31.0	C	C	36.3	37.6	C	C	34.8	C	C									
417	35.7	C	C	34.5	37.1	C	38.0	C	37.2	C	38.5	32.5	C	36.3	C	C	31.4							
436	35.3	35.0	37.5	34.5	37.1	C	34.0	C	34.2	C	C	35.2	34.6											
443	31.6	D	D	32.2	32.9	31.4	C	C	31.7	30.8	31.4	31.0	31.3											
451	37.4	38.9	C	37.5	39.0	35.6	C	C	C	37.2	C	C	35.5	C	37.9	37.3								

MEAN 34.2  
S.D. 2.35  
N 26

D = DEAD PUP, C = CULLED PUP  
a PUP WEIGHT WAS NOT OBTAINED DUE TO TECHNICAL ERROR.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 5: 10.0 MG/KG/DAY

APPENDIX W

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308	24.9	D	22.5	24.8	C	D	27.1	24.5	D	C	C	26.9	C	C	26.9	26.8	19.9							
318	32.8	35.3	34.2	33.4	32.0	C	31.8	32.9	31.4	C	31.5	C												
319	32.0	D	D	32.5	32.4	32.4	33.0	32.6	C	30.7	31.0	31.1												
327	40.7	40.8	42.2	38.8	41.9	39.9																		
331	31.2	C	C	32.7	31.3	30.5	30.4	30.7	30.2	32.4	C	C	C	31.7	C	C								
333	31.8	33.0	32.6	29.9	33.3	32.9	29.7	D	30.5	C	32.4													
336	36.1	C	36.1	36.8	37.7	36.9	C	36.9	35.9	35.1	C	C	33.6	C										
337	32.8	D	31.8	33.7	33.8	32.8	32.1	32.2	31.4	34.2														
352	34.4	D	35.9	C	C	34.3	35.0	35.9	34.4	C	32.4	33.9	33.4											
358	35.5	D	C	35.1	36.1	38.2	C	C	36.6	32.3	C	C	33.2	35.3	37.5									
362	32.6	30.1	35.1	37.3	34.6	26.0																		
364	32.6	C	36.1	33.1	C	32.7	28.5	C	32.8	C	34.0	31.9	C	31.7										
378	31.9	D	D	D	32.0	32.4	31.9	32.5	31.0	34.8	32.7	28.2												
394	34.3	35.9	C	32.9	C	36.3	35.3	C	C	32.6	C	33.0	C	D	34.0									
395	30.1	D	C	30.0	31.0	30.9	32.0	C	C	30.2	C	C	30.8	25.8	C	29.9								
396	31.0	27.1	31.1	C	32.7	C	C	C	32.9	32.3	C	30.3	C	C	32.3	29.1								
399	38.1	C	36.4	37.4	40.1	C	39.3	C	C	36.8	C	38.6	38.0	38.1										
405	38.1	C	37.9	41.1	39.1	39.7	35.0	37.9	35.0	39.0														
415	31.0	32.0	32.5	C	C	C	31.7	31.1	C	29.7	C	C	31.8	29.7	C	C								
434	38.7	C	39.8	42.0	C	C	39.0	40.5	29.1	D	40.2	37.9	C	40.8										
435	29.5	30.2	C	30.3	28.8	C	C	32.6	C	C	28.3	27.0	31.2	27.9										
437	41.6	41.4	42.4	44.8	C	41.8	41.0	C	41.2	40.7	39.2	D												
438	33.1	D	32.4	35.4	C	33.5	C	33.3	C	C	31.6	C	C	31.6	C	33.4	32.7	32.7						
441	36.5	37.0	37.8	37.5	38.0	C	C	36.6	34.6	C	34.9	35.4												
448	35.0	35.9	35.9	32.9	35.3																			
626	32.3	D	33.7	31.4	33.1	32.1	C	C	33.2	30.6	31.3	C	33.0											
627	29.3	C	29.7	C	30.5	C	30.4	29.2	27.7	27.8	29.9	29.3												

MEAN 33.6  
S. D. 3.71  
N 27

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 21  
DAY 21

GROUP 1: 0 MG/KG/DAY

DAM NO. PUP NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
MEAN

306	60.3	62.2	57.9	61.8	60.8	58.9	60.2																
311	47.9	C	49.9	C	46.0	C	51.9	48.9	C	44.7	C	51.8	44.6	45.6	C	C							
317	48.6	49.2	C	48.5	48.3	C	48.0	C	C	50.2	49.5	48.3	46.7	C									
321	50.5	50.8	55.0	50.8	53.5	C	47.7	C	45.5	C	49.5	51.0	C	D									
323	53.7	D	50.2	55.5	C	55.2	60.3	C	C	C	C	52.2	52.9	55.4	C	47.9							
345	59.8	64.2	59.8	C	58.0	59.8	56.4	C	61.7	57.0	61.1	C	C										
348	56.7	57.6	55.1	57.8	58.2	C	C	53.6	58.8	55.3	C	C	56.9										
353	54.4	D	54.0	C	56.1	57.2	C	57.5	51.5	C	51.6	52.5	C	54.4									
355	54.3	58.5	56.3	C	C	52.8	53.8	C	D	54.5	55.7	C	51.6	51.5	D	C							
371	61.7	63.1	59.9	61.4	61.5	62.5																	
380	51.1	50.5	51.6	C	52.6	C	C	53.0	C	53.7	46.4	C	C	52.1	48.9								
384	50.1	C	52.2	C	48.0	52.8	C	C	49.4	49.3	51.0	C	51.0	46.9									
388	51.0	49.6	C	53.4	53.5	51.9	53.2	50.3	C	49.1	C	C	C	46.9									
390	53.1	52.0	55.6	C	50.8	C	55.6	C	C	53.7	C	53.5	C	C	50.7	53.1	C						
400	53.2	D	C	56.6	55.0	52.9	56.8	C	53.0	51.7	49.7	49.7											
403	50.9	C	52.5	51.1	54.2	C	51.0	C	C	54.2	51.4	49.1	43.8	C									
408	48.3	50.2	C	47.6	47.5	C	C	C	48.5	C	49.5	C	49.4	46.8	47.1								
420	63.8	69.4	61.8	59.3	64.0	64.3																	
425	45.7	49.2	C	49.1	C	C	C	48.8	47.8	45.9	C	33.8	48.0	43.3									
426	48.9	C	C	C	50.3	49.6	C	C	48.3	C	50.4	C	C	50.3	47.9	46.8	47.2						
427	51.0	D	53.5	C	54.3	55.8	46.2	C	C	51.3	C	47.5	52.7	C	47.0								
449	54.5	53.0	59.2	58.3	C	55.5	C	49.3	53.6	C	C	52.4	54.8										
450	53.2	D	C	C	54.0	51.1	57.9	C	52.6	C	C	53.2	55.5	49.2	52.2								
628	51.9	53.1	C	52.0	48.9	C	55.9	51.6	C	51.1	C	47.5	54.9										

MEAN 53.1  
S.D. 4.57  
N 24

D = DEAD PUP, C = CULLED PUP

APPENDIX W  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310	49.5	47.5	50.0	51.7	46.9	C	C	49.4	48.0	53.4	48.7													
312	52.0	C	C	52.1	49.3	56.7	54.3	50.0	48.8	51.4	C	53.6												
313	47.1	51.9	47.4	49.4	47.6	43.7	44.1	46.8	45.9															
314	58.0	D	59.7	62.3	C	61.4	C	58.8	C	54.7	52.6	C	60.4	54.0										
324	56.5	50.4	53.9	C	61.5	61.7	C	58.5	C	52.7	C	53.2	60.4	C										
325	57.6	59.3	62.4	C	C	58.3	C	C	54.7	53.6	C	54.6	59.5	58.5										
329	59.7	C	C	C	64.8	58.3	C	59.1	60.3	C	61.4	56.3	60.6	57.0	C									
354	66.6	68.0	71.7	C	69.5	68.8	C	C	62.5	C	65.5	64.5	61.9											
363	57.0	D	D	D	60.8	58.6	C	62.4	60.8	52.3	50.3	54.8	C	C	56.0	C								
377	58.0	57.8	58.6	C	C	60.9	C	C	62.7	56.5	C	C	54.7	54.8	C	57.9								
397	57.5	D	61.5	C	57.1	61.7	57.1	C	C	C	C	54.4	57.9	C	54.9	55.7								
406	51.0	D	53.6	50.1	46.6	52.8	D	55.8	C	C	C	C	51.7	49.9	47.2	C								
409	53.2	C	C	55.0	C	57.1	50.6	55.3	C	51.3	52.7	53.4	50.2											
411	53.2	54.3	52.1	57.8	C	C	52.2	D	55.7	52.8	49.4	51.1	C	C	C	C								
413	53.7	52.6	57.6	C	55.6	54.9	C	47.1	C	55.0	55.9	50.8	C	C	C	C								
419	57.5	C	C	C	54.4	C	C	60.3	60.0	C	55.8	55.4	58.4	59.9	56.1									
422	56.0	55.5	59.0	57.7	54.9	C	C	C	C	59.1	C	52.6	C	55.0	54.2									
423	44.4	D	C	42.1	C	D	C	47.7	49.1	45.8	D	C	37.2	C	C									
428	54.2	D	C	54.9	C	C	C	54.0	55.1	57.0	C	52.8	50.9	C	55.0	54.2								
429	56.9	D	57.9	55.0	C	C	59.3	59.8	57.3	C	C	53.9	55.1	C	56.6									
430	51.8	C	56.8	52.1	C	C	55.4	49.8	C	C	46.7	C	51.2	C	51.1	C	C							
431	49.4	C	C	48.4	49.3	C	49.3	52.4	C	C	C	49.3	51.4	C	D	50.6	44.5							
440	51.0	C	50.6	C	53.0	C	53.6	C	55.8	47.8	C	46.8	C	C	46.5	53.8	C							
447	52.9	D	56.0	55.1	57.6	54.4	C	C	C	51.2	C	C	48.9	C	50.9	C	49.3							
629	55.4	C	C	C	61.0	54.3	56.2	57.2	C	C	55.3	C	52.0	C	54.0	C	52.8							

MEAN 54.4  
S. D. 4.55  
N 25

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX W  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304	57.5	D	C	C	59.7	56.4	56.6	58.9	57.8	C	C	59.4	C	56.0	55.3	C								
307	59.9	C	63.8	D	C	57.2	C	62.5	62.1	C	C	57.7	59.7	56.3	59.5									
332	73.9	75.7	75.3	81.1	71.8	65.5																		
338	55.6	56.3	57.4	55.7	C	57.2	C	C	54.7	57.2	52.6	53.7	C	C	C									
340	58.4	58.4	C	54.4	C	60.8	57.4	63.1	C	57.8	59.4	55.8												
342	60.4	62.2	64.4	62.4	61.8	58.0	56.9	56.9																
343	48.6	D	C	48.0	46.6	C	49.9	51.5	C	49.1	48.9	C	C	44.0	50.5									
351	64.0	D	D	69.5	66.6	C	67.2	60.9	C	60.7	60.5	C	63.8	63.0										
356	57.6	56.7	62.6	52.4	62.6	C	C	55.0	54.0	62.0	D	C	C	55.3	C									
357	51.3	50.7	D	48.1	57.0	53.2	C	52.0	49.5	51.2	49.0	C	C											
359	52.1	D	C	56.4	50.3	C	C	34.1	56.9	C	C	C	C	52.1	53.6	57.3	55.9							
367	55.4	D	56.1	56.9	58.2	C	56.6	52.3	54.9	C	52.8	C	55.3											
368	51.8	C	51.4	56.5	48.9	C	55.2	51.0	C	52.8	49.6	C	C	49.0										
372	53.8	C	58.0	53.8	53.4	53.5	55.7	49.1	53.5	C	53.1	C	C											
373	56.2	56.5	55.3	C	62.3	C	58.0	54.5	48.1	C	57.3	C	C	57.4										
382	53.9	56.2	52.5	51.4	55.1	C	C	52.3	54.9	53.7	54.8													
385	55.7	58.6	55.2	56.2	54.3	53.5	57.8	54.2																
404	46.8	53.3	47.7	49.7	D	55.8	C	44.0	30.3	48.2	C	45.6												
418	52.6	C	56.5	53.9	55.7	53.2	C	51.6	44.8	52.8	C	C	52.6	C										
421	54.8	C	54.6	54.4	54.0	C	C	56.6	C	53.9	C	53.6	55.0	56.3	D									
432	47.4	C	C	53.9	47.3	50.5	51.6	38.8	C	C	47.6	41.5	48.1	C	C	C								
439	56.5	C	56.3	61.1	C	C	54.4	60.4	56.1	C	C	55.2	C	C	53.4	55.1								
444	54.4	55.0	54.8	C	50.6	59.1	C	C	C	51.9	52.9	C	C	C	54.9	C	56.3							
445	53.9	56.5	56.8	53.8	C	C	C	C	C	52.0	54.0	53.4	51.5	53.5										
625	52.8	56.3	54.2	C	C	59.0	52.8	C	50.8	52.1	48.3	C	49.0											

MEAN 55.4  
S. D. 5.51  
N 25

D = DEAD PUP, C = CULLED PUP

APPENDIX W  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303	57.8	57.9	59.6	61.8	C	C	59.5	56.9	C	57.8	53.6	55.3												
316	57.2	58.0	56.9	60.9	C	C	59.2	C	C	53.9	56.2	55.5	57.3											
326	50.8	C	47.8	52.9	C	54.9	51.9	C	C	46.1	49.0	C	C	52.6	50.9									
328	62.2	64.3	C	64.1	66.1	58.9	C	60.7	61.6	60.1	61.5													
330	47.6	44.8	49.3	48.6																				
344	58.4	C	61.0	59.5	C	58.0	57.0	C	59.1	55.6	C	60.9	56.0											
346	57.9	C	C	C	63.9	61.3	C	D	C	62.0	59.1	C	55.2	51.6	52.4	57.3								
347	54.4	D	C	C	C	53.8	59.8	57.3	53.9	C	C	56.3	52.3	52.9	48.9									
350	47.3	C	42.8	C	46.0	D	50.4	49.2	C	47.5	47.9	45.7	49.2											
360	55.5	C	C	57.6	59.3	54.2	61.3	C	53.6	53.7	50.5	53.4	C											
361	54.7	C	C	C	56.6	52.1	C	C	56.3	57.5	54.1	50.9	C	51.1	58.6									
365	55.3	54.9	C	C	58.0	56.6	57.6	C	52.2	56.9	51.3	54.9												
374	48.0	45.9	44.3	C	52.7	53.6	C	49.1	45.5	45.6	C	47.1	C											
375	56.9	57.3	55.0	C	C	57.1	60.4	C	C	C	57.6	C	57.5	58.0	52.5	C								
381	50.6	C	53.6	48.0	52.5	C	C	49.9	C	C	52.4	49.3	49.7	C	49.2									
389	50.1	D	55.8	52.0	42.9	52.2	C	49.5	49.6	49.1	C	49.3	C											
393	54.8	C	C	59.6	55.3	58.2	54.4	C	51.6	D	C	53.3	C	55.0	51.3									
398	53.2	D	55.9	C	53.1	56.1	54.2	52.5	53.7	48.5	51.6													
402	55.7	C	56.5	C	54.1	52.5	59.1	C	C	C	50.2	C	60.5	57.4	55.2									
410	53.5	C	C	C	54.0	53.2	C	49.7	53.4	C	56.4	54.6	54.0	52.6	C									
414	53.0	C	55.8	C	50.9	59.9	50.4	44.3	53.4	56.2	C	C	52.7											
416	57.3	58.8	62.8	58.1	60.8	47.9	C	C	59.5	58.8	C	C	51.9	C	C									
417	55.1	C	C	54.1	58.3	C	59.9	C	57.0	C	59.0	48.8	C	55.8	C	C	47.9							
436	58.6	60.6	62.5	59.3	61.2	C	55.6	C	55.8	C	C	58.0	55.9											
443	51.7	D	52.4	53.7	50.5	C	C	53.3	50.5	49.4	53.0	50.8												
451	57.1	59.5	C	58.8	60.2	54.2	C	C	C	55.4	C	C	53.9	C	58.7	56.1								

MEAN 54.4  
S.D. 3.73  
N 26

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
308	41.2	D	38.6	41.2	C	D	44.6	39.8	D	C	C	43.5	C	C	42.4	43.7	35.4								
318	51.8	56.8	54.9	54.2	48.7	C	48.5	51.5	50.4	C	49.1	C													
319	51.3	D	D	D	54.4	50.9	53.4	53.8	51.9	C	45.8	50.4	50.0												
327	61.9	61.6	63.2	61.2	63.9	59.4																			
331	48.2	C	C	50.9	48.6	46.1	48.0	48.3	47.7	48.3	C	C	C	47.8	C	C									
333	51.3	54.0	51.8	48.4	53.5	52.2	48.9	D	49.6	C	52.3														
336	58.0	C	60.1	58.9	58.4	60.7	C	59.4	58.5	56.3	C	C	51.3	C											
337	54.4	D	51.9	54.9	57.2	53.8	53.0	56.7	51.3	56.5															
352	53.5	D	55.7	C	C	C	55.9	56.9	54.3	52.2	C	49.6	53.3	49.9											
358	55.6	D	C	54.5	58.8	61.8	C	C	56.3	52.4	C	C	50.8	52.2	57.9										
362	51.6	48.1	57.3	56.2	54.6	41.8																			
364	51.2	C	56.6	52.1	C	51.7	46.5	C	51.8	C	51.6	49.2	C	49.9											
378	51.4	D	D	D	D	50.3	52.6	53.3	51.7	49.4	56.5	51.3	45.9												
394	53.9	57.9	C	52.2	C	54.6	54.9	C	C	51.7	C	53.0	C	D	53.1										
395	48.6	D	C	49.0	49.3	49.3	51.9	C	C	47.8	C	C	49.6	43.0	C	48.8									
396	50.6	45.4	48.2	C	56.0	C	C	C	54.0	49.8	C	49.2	C	C	51.0	51.2									
399	58.2	C	54.4	58.4	62.6	C	60.4	C	C	C	53.3	C	58.6	57.2	60.9										
405	60.4	C	60.1	64.7	63.4	61.4	56.7	60.5	55.2	61.4															
415	46.7	51.1	49.7	C	C	C	43.5	47.8	C	43.7	C	C	46.7	45.5	45.5	C	C								
434	62.8	C	65.7	69.8	C	C	65.5	63.7	46.5	D	65.5	60.9	C	64.6											
435	46.1	48.9	C	47.4	46.1	C	C	C	48.6	C	C	42.9	44.4	47.2	43.1										
437	69.8	70.0	74.6	75.5	C	67.9	70.2	C	64.5	70.3	65.7	D													
438	54.6	D	53.6	53.0	C	59.8	C	55.6	C	C	52.9	C	55.5	56.4											
441	58.8	62.3	60.6	61.3	60.1	C																			
448	57.9	59.8	59.4	54.8	57.4																				
626	52.4	D	55.9	51.8	55.1	49.6	C	C	53.0	51.0	50.6	C	51.9												
627	46.6	C	48.1	C	47.9	C	48.7	49.5	43.6	43.5	45.8	45.7													

MEAN 53.7  
S. D. 6.06  
N 27

D = DEAD PUP, C = CULLED PUP



SLI Study No. 3472.4

APPENDIX X

Individual F1 Vaginal Opening Data

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX X  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 VAGINAL OPENING DATA

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY 33	DAY 34	DAY 35
306	0/ 1	0/ 1	1/ 1
311	1/ 1		
317	1/ 1		
321	1/ 1		
323	0/ 1	0/ 1	1/ 1
345	2/ 2		
348	0/ 1	1/ 1	
353	1/ 1		
355	1/ 1		
371	1/ 1		
380	1/ 1		
384	0/ 1	1/ 1	
388	1/ 1		
390	2/ 2		
400	1/ 1		
403	1/ 1		
408	1/ 1		
420	1/ 1		
426	1/ 1		
427	1/ 1		
449	2/ 2		
450	1/ 1		
628	2/ 2		
NO. COMPLETED	23/ 27	25/ 27	27/ 27
PERCENT	85.2	92.6	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX X  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 VAGINAL OPENING DATA

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY 33	DAY 34	DAY 35
310	1/ 1		
312	0/ 1	1/ 1	
313	1/ 1		
314	1/ 1		
324	1/ 1		
325	1/ 1		
329	2/ 2		
354	1/ 1		
363	1/ 1		
377	1/ 1		
397	1/ 1		
406	1/ 1		
409	1/ 1		
411	2/ 2		
413	1/ 1		
419	0/ 1	1/ 1	
422	1/ 1		
423	1/ 1		
428	1/ 1		
429	0/ 2	1/ 2	2/ 2
430	1/ 1		
431	1/ 1		
440	1/ 1		
447	1/ 1		
629	0/ 1	1/ 1	
-----			
NO. COMPLETED	23/ 28	27/ 28	28/ 28
PERCENT	82.1	96.4	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX X  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 VAGINAL OPENING DATA

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY 33	DAY 34	DAY 35	DAY 36	DAY 37	DAY 38
304	1/ 1					
307	1/ 1					
332	0/ 1	1/ 1				
338	1/ 1					
340	0/ 1	1/ 1				
342	1/ 1					
343	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1
351	2/ 2					
356	1/ 1					
357	1/ 1					
359	1/ 1					
367	1/ 2	2/ 2				
368	1/ 1					
372	0/ 1	1/ 1				
373	1/ 1					
382	1/ 2	1/ 2	2/ 2			
385	1/ 1					
404	0/ 1	0/ 1	1/ 1			
418	1/ 1					
421	1/ 1					
432	1/ 1					
439	1/ 1					
444	1/ 1					
445	1/ 1					
625	0/ 1	0/ 1	0/ 1	1/ 1		
<b>NO. COMPLETED</b>	20/ 28	24/ 28	26/ 28	27/ 28	27/ 28	28/ 28
<b>PERCENT</b>	71.4	85.7	92.9	96.4	96.4	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX X  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 VAGINAL OPENING DATA

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY 33	DAY 34	DAY 35	DAY 36
303	0/ 1	0/ 1	1/ 1	
316	1/ 1			
326	1/ 1			
328	1/ 1			
330	1/ 1			
344	0/ 1	1/ 1		
346	0/ 1	1/ 1		
347	1/ 1			
350	0/ 1	0/ 1	0/ 1	1/ 1
360	1/ 1			
361	1/ 1			
365	1/ 1			
374	1/ 1			
375	0/ 1	1/ 1		
381	1/ 1			
393	1/ 1			
398	0/ 1	0/ 1	1/ 1	
402	1/ 1			
410	1/ 1			
414	1/ 1			
416	1/ 2	2/ 2		
417	1/ 1			
436	2/ 2			
443	1/ 1			
451	1/ 1			
<b>NO. COMPLETED</b>	<b>20/ 27</b>	<b>24/ 27</b>	<b>26/ 27</b>	<b>27/ 27</b>
<b>PERCENT</b>	<b>74.1</b>	<b>88.9</b>	<b>96.3</b>	<b>100.0</b>

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX X  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 VAGINAL OPENING DATA

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY 33	DAY 34	DAY 35
308	1/ 1		
318	2/ 2		
319	1/ 1		
327	1/ 1		
331	1/ 1		
333	1/ 1		
336	0/ 1	1/ 1	
337	1/ 1		
352	1/ 1		
358	0/ 1	0/ 1	1/ 1
362	0/ 1	0/ 1	1/ 1
364	1/ 1		
378	1/ 1		
394	0/ 1	1/ 1	
395	1/ 1		
396	1/ 1		
399	1/ 1		
405	1/ 1		
415	1/ 1		
434	2/ 2		
435	1/ 1		
437	0/ 1	1/ 1	
438	1/ 1		
441	1/ 1		
448	0/ 1	1/ 1	
627	1/ 1		

NO. COMPLETED 22/ 28 26/ 28 28/ 28  
 PERCENT 78.6 92.9 100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH A VAGINAL OPENING/TOTAL NO. OF PUPS EXAMINED.

(703)

SLI Study No. 3472.4

## APPENDIX Y

Individual F1 Preputial Separation Data

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 APPENDIX Y  
 INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY 40	DAY 41	DAY 42	DAY 43	DAY 44	DAY 45	DAY 46
306	0/ 2	1/ 2	2/ 2				
311	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
317	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
321	0/ 2	0/ 2	0/ 2	0/ 2	0/ 2	1/ 2	2/ 2
323	0/ 2	1/ 2	2/ 2				
345	0/ 1	0/ 1	0/ 1	1/ 1			
348	0/ 1	0/ 1	0/ 1	1/ 1			
353	1/ 1						
355	1/ 2	2/ 2					
371	1/ 1						
380	0/ 1	0/ 1	0/ 1	1/ 1			
384	0/ 1	0/ 1	0/ 1	1/ 1			
388	0/ 1	0/ 1	0/ 1	1/ 1			
390	0/ 1	0/ 1	0/ 1	1/ 1			
400	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
403	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
408	0/ 1	1/ 1					
420	0/ 1	1/ 1					
425	0/ 1	0/ 1	1/ 1				
426	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
427	0/ 1	1/ 1					
449	0/ 1	0/ 1	0/ 1	1/ 1			
450	0/ 1	0/ 1	0/ 1	1/ 1			
628	0/ 1	0/ 1	0/ 1	1/ 1			
NO. COMPLETED	3/ 28	9/ 28	12/ 28	21/ 28	24/ 28	27/ 28	28/ 28
PERCENT	10.7	32.1	42.9	75.0	85.7	96.4	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

APPENDIX Y

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY 40	DAY 41	DAY 42	DAY 43	DAY 44	DAY 45	DAY 46	DAY 47	DAY 48
310	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
312	0/ 2	1/ 2	2/ 2						
313	0/ 1	0/ 1	1/ 1						
314	0/ 1	1/ 1							
324	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
325	0/ 1	1/ 1							
329	0/ 1	0/ 1	0/ 1	1/ 1					
354	1/ 1	1/ 1							
363	0/ 1	0/ 1	0/ 1	1/ 1					
377	1/ 1	1/ 1							
397	0/ 2	1/ 2	1/ 2	1/ 2	2/ 2				
406	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
409	0/ 1	1/ 1	0/ 1						
411	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
413	0/ 1	0/ 1	0/ 1	1/ 1					
419	0/ 1	0/ 1	1/ 1						
422	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
423	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1
428	0/ 2	0/ 2	2/ 2						
429	0/ 1	1/ 1							
430	0/ 1	1/ 1	1/ 1						
431	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
440	0/ 1	0/ 1	0/ 1	0/ 1					
447	0/ 1	1/ 1							
629	0/ 1	1/ 1							
NO. COMPLETED	2/ 28	11/ 28	17/ 28	20/ 28	26/ 28	26/ 28	26/ 28	27/ 28	27/ 28
PERCENT	7.1	39.3	60.7	71.4	92.9	92.9	92.9	96.4	96.4

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX Y  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

GROUP 2: 1.0 MG/KG/DAY

-----  
 ANIMAL NO. DAY 49 DAY 50  
 -----

310		
312		
313		
314		
324		
325		
329		
354		
363		
377		
397		
406		
409		
411		
413		
419		
422		
423	0/ 1	1/ 1
428		
429		
430		
431		
440		
447		
629		
-----		
NO. COMPLETED	27/ 28	28/ 28
PERCENT	96.4	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

APPENDIX Y  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY 40	DAY 41	DAY 42	DAY 43	DAY 44	DAY 45	DAY 46	DAY 47	DAY 48
304	0/ 1	1/ 1							
307	0/ 1	0/ 1	0/ 1	1/ 1					
332	1/ 1								
338	0/ 1	1/ 1							
340	0/ 2	1/ 2	2/ 2						
342	0/ 1	1/ 1							
343	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
351	0/ 1	0/ 1	0/ 1	1/ 1					
356	1/ 2	1/ 2	2/ 2						
357	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1				
359	0/ 1	0/ 1	0/ 1	1/ 1					
367	0/ 1	0/ 1	0/ 1	1/ 1					
368	0/ 1	0/ 1	1/ 1	1/ 1					
372	0/ 1	0/ 1	0/ 1	1/ 1					
373	0/ 2	0/ 2	2/ 2						
382	0/ 1	0/ 1	0/ 1	1/ 1					
385	0/ 1	0/ 1	1/ 1						
404	0/ 1	0/ 1	1/ 1						
418	0/ 1	0/ 1	0/ 1	1/ 1					
421	0/ 1	0/ 1	1/ 1						
432	0/ 1	0/ 1	1/ 1						
439	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1
444	0/ 1	0/ 1	1/ 1						
445	0/ 1	0/ 1	0/ 1	1/ 1					
625	0/ 1	0/ 1	1/ 1						
-----									
NO. COMPLETED	2/ 28	7/ 28	17/ 28	25/ 28	27/ 28	27/ 28	27/ 28	27/ 28	27/ 28
PERCENT	7.1	25.0	60.7	89.3	96.4	96.4	96.4	96.4	96.4

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX Y  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO. DAY 49

- 304
- 307
- 332
- 338
- 340
- 342
- 343
- 351
- 356
- 357
- 359
- 367
- 368
- 372
- 373
- 382
- 385
- 404
- 418
- 421
- 432
- 439
- 444
- 445
- 625

1/ 1

NO. COMPLETED 28/ 28  
PERCENT 100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX Y  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY 40	DAY 41	DAY 42	DAY 43	DAY 44	DAY 45	DAY 46	DAY 47
303	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1			
316	0/ 1	1/ 1						
326	0/ 1	0/ 1	0/ 1	1/ 1				
328	1/ 1							
344	0/ 1	0/ 1	1/ 1					
346	0/ 2	2/ 2						
347	0/ 1	0/ 1	0/ 1	1/ 1				
350	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1			
360	0/ 1	1/ 1						
361	0/ 1	0/ 1	1/ 1					
365	0/ 1	0/ 1	1/ 1					
374	0/ 1	0/ 1	0/ 1	1/ 1				
375	0/ 1	1/ 1						
381	0/ 1	0/ 1	0/ 1	1/ 1				
389	0/ 2	0/ 2	1/ 2	1/ 2	2/ 2			
393	0/ 1	1/ 1						
398	1/ 1							
402	0/ 1	0/ 1	1/ 1					
410	0/ 1	0/ 1	1/ 1					
414	0/ 1	0/ 1	1/ 1					
416	0/ 2	0/ 2	2/ 2					
417	0/ 1	1/ 1						
436	0/ 1	0/ 1	0/ 1	1/ 1				
443	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1
451	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1			
NO. COMPLETED	2/ 28	9/ 28	18/ 28	23/ 28	27/ 28	27/ 28	27/ 28	28/ 28
PERCENT	7.1	32.1	64.3	82.1	96.4	96.4	96.4	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PREPUTIAL SEPARATION DATA

APPENDIX Y

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY 40	DAY 41	DAY 42	DAY 43	DAY 44	DAY 45	DAY 46
308	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1
318	0/ 1	0/ 1	0/ 1	1/ 1			
319	0/ 1	1/ 1					
327	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
331	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
333	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
336	0/ 1	1/ 1					
337	0/ 1	0/ 1	1/ 1				
352	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
358	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
362	0/ 1	0/ 1	1/ 1				
364	0/ 1	0/ 1	1/ 1				
378	0/ 1	0/ 1	0/ 1	1/ 1			
394	0/ 1	0/ 1	0/ 1	1/ 1			
395	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1		
396	0/ 1	0/ 1	0/ 1	1/ 1			
399	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
405	0/ 1	1/ 1					
415	0/ 1	0/ 1	1/ 1				
434	1/ 1						
435	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1	
437	2/ 2						
438	0/ 1	0/ 1	1/ 1				
441	0/ 1	1/ 1					
448	0/ 1	0/ 1	1/ 1				
626	0/ 1	0/ 1	0/ 1	1/ 1			
627	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	0/ 1	1/ 1
NO. COMPLETED	3/ 28	7/ 28	13/ 28	18/ 28	22/ 28	26/ 28	28/ 28
PERCENT	10.7	25.0	46.4	64.3	78.6	92.9	100.0

NOTE: DATA REFLECT THE NO. OF PUPS WITH PREPUTIAL SEPARATION/TOTAL NO. OF PUPS EXAMINED.

(711)

SLI Study No. 3472.4

APPENDIX Z

Individual F1 Pup Gross Necropsy Observations

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD OR UNSCHEDULED EUTHANASIA	STUDY DAY	GRADE
400-01	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	5/ 8/99	4
			STOMACH	GROSS: MILK NOT PRESENT		
341-03	GROUP:	0 MG/KG/DAY	MALE	UNSCHEDULED EUTHANASIA	5/18/99	STUDY DAY 14
			GENERAL COMMENT	GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM'S EXTREME AGGRESSION		
341-05	GROUP:	0 MG/KG/DAY	MALE	UNSCHEDULED EUTHANASIA	5/18/99	STUDY DAY 14
			GENERAL COMMENT	GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM'S EXTREME AGGRESSION		
341-06	GROUP:	0 MG/KG/DAY	MALE	UNSCHEDULED EUTHANASIA	5/18/99	STUDY DAY 14
			GENERAL COMMENT	GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM'S EXTREME AGGRESSION		
341-07	GROUP:	0 MG/KG/DAY	MALE	UNSCHEDULED EUTHANASIA	5/18/99	STUDY DAY 14
			GENERAL COMMENT	GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM'S EXTREME AGGRESSION		
406-01	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	5/ 8/99	STUDY DAY 4
			LUNGS	GROSS: MILK NOT PRESENT		
			STOMACH			
339-02	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	5/ 8/99	STUDY DAY 4
			LUNGS	GROSS: TOO AUTOLYZED TO EXAMINE		
			GENERAL COMMENT	INVOLVING ABDOMINAL TISSUES, KIDNEYS AND URETERS		
339-01	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	5/ 8/99	STUDY DAY 4
			LUNGS	GROSS: TOO AUTOLYZED TO EXAMINE		
			GENERAL COMMENT	INVOLVING ABDOMINAL TISSUES, KIDNEYS AND URETERS		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX Z  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD OR UNSCHEDULED EUTHANASIA	5/ 6/99	STUDY DAY	2	GRADE
428-01		LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES		STUDY DAY	2	P
		STOMACH		GROSS: MILK NOT PRESENT				P
429-01		STOMACH	MALE	FOUND DEAD GROSS: MILK NOT PRESENT	5/ 6/99	STUDY DAY	2	P
363-01		STOMACH	MALE	FOUND DEAD GROSS: MILK NOT PRESENT	5/10/99	STUDY DAY	6	P
363-02		SKIN	MALE	FOUND DEAD GROSS: SUBCUTANEOUS EDEMA HEAD, NECK AND FORELIMBS	5/10/99	STUDY DAY	6	P
		STOMACH		GROSS: MILK NOT PRESENT				P
363-03		LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	5/10/99	STUDY DAY	6	P
		SKIN		GROSS: SUBCUTANEOUS EDEMA HEAD, NECK AND FORELIMBS				P
		STOMACH		GROSS: MILK NOT PRESENT				P
363-04		STOMACH	MALE	FOUND DEAD GROSS: MILK NOT PRESENT	5/10/99	STUDY DAY	6	P
423-05		GENERAL COMMENT	MALE	FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL TISSUES, KIDNEYS AND TESTES	5/11/99	STUDY DAY	7	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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		FOUND DEAD OR UNSCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	359-01	GROUP: 2.5 MG/KG/DAY STOMACH	MALE FOUND DEAD GROSS: MILK PRESENT	5/ 8/99 STUDY DAY 4 P
ANIMAL NO.	351-01	GROUP: 2.5 MG/KG/DAY LUNGS STOMACH	MALE FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	5/ 5/99 STUDY DAY 1 P P
ANIMAL NO.	421-14	GROUP: 2.5 MG/KG/DAY LUNGS STOMACH	MALE FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	5/ 5/99 STUDY DAY 1 P P
ANIMAL NO.	404-04	GROUP: 2.5 MG/KG/DAY GENERAL COMMENT	MALE a FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING LIVER, STOMACH, REPRODUCTIVE TISSUES	5/11/99 STUDY DAY 7 P
ANIMAL NO.	389-02	GROUP: 5.0 MG/KG/DAY LUNGS STOMACH	MALE FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	5/ 7/99 STUDY DAY 3 P P
ANIMAL NO.	350-05	GROUP: 5.0 MG/KG/DAY GENERAL COMMENT	MALE a FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	5/ 7/99 STUDY DAY 3 P
ANIMAL NO.	347-01	GROUP: 5.0 MG/KG/DAY LIVER STOMACH	MALE FOUND DEAD GROSS: MOTTLED ALL LOBES, DARK RED AND RED GROSS: MILK PRESENT	5/ 5/99 STUDY DAY 1 P P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	FOUND DEAD OR UNSCHEDULED EUTHANASIA	STUDY DAY	GRADE
443-01	GROUP:	5.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: MILK NOT PRESENT	5/ 5/99	1
346-07	GROUP:	5.0 MG/KG/DAY	MALE a	FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	5/10/99	6
308-05	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: PALE ALL LOBES GROSS: MILK PRESENT	5/ 8/99	4
438-01	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	5/ 7/99	3
319-01	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	5/ 7/99	3
352-01	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD GROSS: MILK NOT PRESENT	5/ 5/99	1
452-11	GROUP:	10.0 MG/KG/DAY	MALE b	FOUND DEAD GROSS: FOUND DELIVERED ON LACTATION DAY 2 UNABLE TO DETERMINE SEX LOWER BODY PORTION ABSENT GROSS: TISSUES MISSING - UNABLE TO EXAMINE LUNGS, ALL ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES INVOLVING HEAD, ESOPHAGUS, TRACHEA, THYMUS, MAJOR VESSELS AND HEART	5/ 8/99	4

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT  
a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.

b THE SEX OF THIS PUP COULD NOT BE DETERMINED. PUP WAS DESIGNATED AS A MALE TO ALLOW COMPUTER DATA ENTRY.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	452-12	GROUP:	10.0 MG/KG/DAY	MALE <sup>a</sup>	FOUND DEAD	5/ 8/99	STUDY DAY	4	GRADE
		GENERAL COMMENT			GROSS: FOUND DELIVERED ON LACTATION DAY 2				P
		GENERAL COMMENT			GROSS: UNABLE TO DETERMINE SEX				P
		GENERAL COMMENT			GROSS: LOWER BODY PORTION ABSENT				P
		GENERAL COMMENT			GROSS: TISSUES MISSING - UNABLE TO EXAMINE LUNGS, ALL ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES				P
		GENERAL COMMENT			GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING HEAD, ESOPHAGUS, TRACHEA, THYMUS, MAJOR VESSELS, AND HEART				P
ANIMAL NO.	452-01	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD	5/ 6/99	STUDY DAY	2	P
		LUNGS			GROSS: ATELECTASIS				
		STOMACH			GROSS: ALL LOBES				
					GROSS: MILK NOT PRESENT				P
ANIMAL NO.	378-01	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD	5/ 6/99	STUDY DAY	2	P
		LUNGS			GROSS: ATELECTASIS				
		STOMACH			GROSS: ALL LOBES				
					GROSS: MILK NOT PRESENT				P
ANIMAL NO.	378-02	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD	5/ 6/99	STUDY DAY	2	P
		LUNGS			GROSS: ATELECTASIS				
		STOMACH			GROSS: ALL LOBES				
					GROSS: MILK NOT PRESENT				P
ANIMAL NO.	378-03	GROUP:	10.0 MG/KG/DAY	MALE	FOUND DEAD	5/ 6/99	STUDY DAY	2	P
		LUNGS			GROSS: ATELECTASIS				
		STOMACH			GROSS: ALL LOBES				
					GROSS: MILK NOT PRESENT				P

<sup>a</sup> THE SEX OF THIS PUP COULD NOT BE DETERMINED. PUP WAS DESIGNATED AS A MALE TO ALLOW COMPUTER DATA ENTRY.

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	SKIN	MALE	FOUND DEAD OR UNSCHEDULED EUTHANASIA	5/ 7/99	STUDY DAY	3	GRADE
626-01					FOUND DEAD GROSS: SUBCUTANEOUS EDEMA VENTRAL NECK AND THORACIC AREA				P
					GENERAL COMMENT GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES				P
427-01					FOUND DEAD GROSS: ATELECTASIS ALL LOBES				P
					STOMACH GROSS: MILK NOT PRESENT				P
355-09					FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES				P
					GENERAL COMMENT GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES				P
355-15					FOUND DEAD GROSS: MILK PRESENT				P
					STOMACH GROSS: MILK NOT PRESENT				P
353-01					FOUND DEAD GROSS: MILK NOT PRESENT				P
					STOMACH GROSS: MILK NOT PRESENT				P
353-02					FOUND DEAD GROSS: MILK NOT PRESENT				P
					STOMACH GROSS: MILK NOT PRESENT				P
321-14					FOUND DEAD GROSS: ATELECTASIS ALL LOBES				P
					STOMACH GROSS: MILK NOT PRESENT				P
450-01					FOUND DEAD GROSS: ATELECTASIS ALL LOBES				P
					STOMACH GROSS: MILK NOT PRESENT				P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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		FOUND DEAD OR UNSCHEDULED EUTHANASIA			GRADE
ANIMAL NO.	341-09	GROUP:	0 MG/KG/DAY	FEMALE GENERAL COMMENT UNCHEDULED EUTHANASIA 5/18/99 STUDY DAY 14 GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM S EXTREME AGGRESSION	P
ANIMAL NO.	341-10	GROUP:	0 MG/KG/DAY	FEMALE GENERAL COMMENT UNCHEDULED EUTHANASIA 5/18/99 STUDY DAY 14 GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM S EXTREME AGGRESSION	P
ANIMAL NO.	341-11	GROUP:	0 MG/KG/DAY	FEMALE GENERAL COMMENT UNCHEDULED EUTHANASIA 5/18/99 STUDY DAY 14 GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM S EXTREME AGGRESSION	P
ANIMAL NO.	341-13	GROUP:	0 MG/KG/DAY	FEMALE GENERAL COMMENT UNCHEDULED EUTHANASIA 5/18/99 STUDY DAY 14 GROSS: EUTHANIZED FOR CAUSE DUE TO MATERNAL DAM S EXTREME AGGRESSION	P
ANIMAL NO.	447-01	GROUP:	1.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO.	431-14	GROUP:	1.0 MG/KG/DAY STOMACH	FOUND DEAD GROSS: MILK NOT PRESENT	P
ANIMAL NO.	314-01	GROUP:	1.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO.	397-01	GROUP:	1.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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FOUND DEAD OR UNSCHEDULED EUTHANASIA			GRADE
ANIMAL NO. 423-10	GROUP: 1.0 MG/KG/DAY GENERAL COMMENT: FEMALE a GROSS: TOO AUTOLYZED TO EXAMINE	FOUND DEAD 5/11/99 STUDY DAY 7 GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	P
ANIMAL NO. 351-02	GROUP: 2.5 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 5/99 STUDY DAY 1 GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO. 351-03	GROUP: 2.5 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 5/99 STUDY DAY 1 GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO. 343-01	GROUP: 2.5 MG/KG/DAY STOMACH	FOUND DEAD 5/ 5/99 STUDY DAY 1 GROSS: MILK NOT PRESENT	P
ANIMAL NO. 304-01	GROUP: 2.5 MG/KG/DAY SKIN STOMACH URETERS MAJOR VESSELS	FOUND DEAD 5/ 6/99 STUDY DAY 2 GROSS: SUBCUTANEOUS EDEMA DORSAL HEAD, NECK AND SHOULDERS GROSS: MILK NOT PRESENT GROSS: DISTENDED BILATERAL GROSS: INTERRUPTED AORTIC ARCH STENOTIC ASCENDING AORTA, RETROESOPHAGEAL RIGHT SUBCLAVIAN, BOTH SUBCLAVIANS ARISING FROM PRE-DUCTAL PORTION OF DESCENDING AORTA, BRACHIOCEPHALIC TRUNK ABSENT	P P 1 P
ANIMAL NO. 356-11	GROUP: 2.5 MG/KG/DAY GENERAL COMMENT: FEMALE a GROSS: TOO AUTOLYZED TO EXAMINE	FOUND DEAD 5/ 6/99 STUDY DAY 2 GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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FOUND DEAD OR UNSCHEDULED EUTHANASIA				GRADE
ANIMAL NO.	367-01	GROUP: 2.5 MG/KG/DAY	FOUND DEAD 5/6/99 STUDY DAY 2 GROSS: ATELECTASIS LUNGS ALL LOBES STOMACH GROSS: MILK NOT PRESENT	P
ANIMAL NO.	398-01	GROUP: 5.0 MG/KG/DAY	FOUND DEAD 5/7/99 STUDY DAY 3 GROSS: ATELECTASIS LUNGS ALL LOBES STOMACH GROSS: MILK NOT PRESENT	P
ANIMAL NO.	398-02	GROUP: 5.0 MG/KG/DAY	FOUND DEAD 5/7/99 STUDY DAY 3 GROSS: ATELECTASIS LUNGS ALL LOBES STOMACH GROSS: MILK NOT PRESENT	P
ANIMAL NO.	389-01	GROUP: 5.0 MG/KG/DAY	FOUND DEAD 5/7/99 STUDY DAY 3 GROSS: ATELECTASIS LUNGS ALL LOBES STOMACH GROSS: MILK NOT PRESENT	P
ANIMAL NO.	443-02	GROUP: 5.0 MG/KG/DAY	FOUND DEAD 5/5/99 STUDY DAY 1 GROSS: ATELECTASIS LUNGS ALL LOBES STOMACH GROSS: MILK NOT PRESENT	P
ANIMAL NO.	393-09	GROUP: 5.0 MG/KG/DAY	FOUND DEAD 5/11/99 STUDY DAY 7 GROSS: PALE LIVER SLIGHT ALL LOBES STOMACH GROSS: MILK PRESENT GENERAL COMMENT GROSS: TOO AUTOLYZED TO EXAMINE INTESTINES	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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		FOUND DEAD OR UNSCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	333-07	GROUP: 10.0 MG/KG/DAY GENERAL COMMENT	FOUND DEAD 5/ 8/99 STUDY DAY 4 FEMALE a GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	P
ANIMAL NO.	319-02	GROUP: 10.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 7/99 STUDY DAY 3 FEMALE GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO.	319-03	GROUP: 10.0 MG/KG/DAY LUNGS	FOUND DEAD 5/ 7/99 STUDY DAY 3 FEMALE GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT GROSS: DISTENDED BILATERAL	P
ANIMAL NO.	358-01	GROUP: 10.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 8/99 STUDY DAY 4 FEMALE GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO.	308-01	GROUP: 10.0 MG/KG/DAY STOMACH	FOUND DEAD 5/ 4/99 STUDY DAY 0 FEMALE GROSS: MILK NOT PRESENT	P
ANIMAL NO.	337-01	GROUP: 10.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 5/99 STUDY DAY 1 FEMALE GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P
ANIMAL NO.	378-04	GROUP: 10.0 MG/KG/DAY LUNGS STOMACH	FOUND DEAD 5/ 6/99 STUDY DAY 2 FEMALE GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE a	FOUND DEAD	5/11/99	STUDY DAY	7	GRADE
437-11		LUNGS	GROSS: ATELECTASIS ALL LOBES					P
		GENERAL COMMENT	GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING LIVER, STOMACH, INTESTINES, SPLEEN AND URINARY/ REPRODUCTIVE TISSUES					P
		MAJOR VESSELS	GROSS: PATENT DUCTUS ARTERIOSUS					P
434-09		KIDNEYS	GROSS: LESION LEFT, RUPTURED					P
		KIDNEYS	GROSS: ENLARGED					P
		KIDNEYS	GROSS: PALE BILATERAL					P
		KIDNEYS	GROSS: PAPILLAE UNDEVELOPED BILATERAL					P
		KIDNEYS	GROSS: CONTENT ABNORMAL BILATERAL, BLOOD CLOTS					P
		LIVER	GROSS: PALE ALL LOBES					P
		SKIN	GROSS: SUBCUTANEOUS EDEMA VENTRAL THORACIC AREA					P
		STOMACH URETERS	GROSS: MILK PRESENT DISTENDED					P
		ABDOMINAL CAVITY	GROSS: FLUID CONTENTS APPROXIMATELY 1 ML OF RED FLUID					P
394-13		KIDNEYS	GROSS: CONTENT ABNORMAL BILATERAL, SMALL QUANTITY OF REDDISH-BROWN FLUID CONTAINED WITHIN RENAL PELVIS					P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	394-13 (CONTINUED)	FOUND DEAD OR UNSCHEDULED EUTHANASIA	GRADE
	URETERS	GROSS: DISTENDED	1
	URINARY BLADDER	BILATERAL, WITH REDDISH-BROWN FLUID GROSS: DISTENDED	P
	BODY	WITH REDDISH-BROWN FLUID GROSS: APPEARS SMALL IN SIZE AND UNDERDEVELOPED	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	306-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	306-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	311-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	311-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	311-07	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	317-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 6/ 2/99 STUDY DAY 29 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	317-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 6/ 2/99 STUDY DAY 29 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	317-07	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 6/ 2/99 STUDY DAY 29 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	321-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	321-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	323-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
ANIMAL NO.	323-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	345-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	348-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	348-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	348-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	353-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	353-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	353-08	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	355-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	355-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	380-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
380-02	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
380-07	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-02	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-04	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-08	GROUP:	0 MG/KG/DAY KIDNEYS	MALE	GROSS: DILATED PELVIS RIGHT			1
388-01	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
388-04	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
388-05	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
390-01	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
390-02	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
ANIMAL NO. 390-06	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 400-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 400-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 400-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 403-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 403-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 408-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 408-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 408-08	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 420-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 425-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
425-03	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
425-08	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
426-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
426-08	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
426-10	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
427-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
427-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
427-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
449-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
449-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
449-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
ANIMAL NO. 450-04	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 450-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 450-08	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 628-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 628-03	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 628-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 403-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 310-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 310-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 312-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 312-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	313-01	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	313-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	313-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	314-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
			KIDNEYS		GROSS: DILATED PELVIS LEFT			
ANIMAL NO.	314-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	314-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	324-01	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	324-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	324-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	325-01	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

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GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
325-02	GROUP:	1.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
325-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
329-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
329-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
329-08	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
354-01	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
354-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
354-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
363-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
363-08	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
363-09	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
377-01	GROUP:	1.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
377-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
377-08	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
397-04	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
397-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
406-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
406-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
406-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
409-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
409-06	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
409-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	411-02	411-03	411-06	413-01	413-02	413-05	419-04	419-07	419-08	422-01	422-02
ANIMAL NO.	411-02	411-03	411-06	413-01	413-02	413-05	419-04	419-07	419-08	422-01	422-02
GROUP:	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY	1.0 MG/KG/DAY
SEX:	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE
DIAPHRAGM:											DIAPHRAGM
SCHEDULED EUTHANASIA:	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA	SCHEDULED EUTHANASIA
GROSS OBSERVATIONS:	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED
STUDY DAY:	21	21	21	25	25	25	25	25	25	25	25

INCOMPLETE HERNIATION OF TENDINOUS PORTION, 0.1 CM DIAMETER,  
PORTION OF MEDIAL LIVER LOBE MISSEAPEN AND EXTENDS INTO  
THIN AREA

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

P

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
422-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
423-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
428-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
428-08	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
429-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
429-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
429-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
430-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
430-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
430-07	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
431-04	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
431-06	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
431-07	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-02	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-06	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-08	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-03	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-04	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-05	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
629-05	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
629-06	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
629-08	GROUP:	1.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	5/27/99 STUDY DAY	23
304-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
304-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
304-07	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
307-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
307-07	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
307-08	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
332-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99 STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
332-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99 STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
332-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99 STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
338-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY
338-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
338-05	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
340-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
340-05	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
340-06	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
342-01	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
342-02	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
342-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
343-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
343-06	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
343-07	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY
351-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
351-05	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
351-07	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
356-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
356-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
357-01	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
357-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
357-05	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
359-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
359-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
359-07	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
367-02	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
367-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
367-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
368-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
368-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
368-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
372-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
372-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
372-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
373-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
373-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	382-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	382-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	382-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	385-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	385-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	385-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	404-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	404-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	404-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	418-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	418-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
418-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
421-02	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
421-04	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
421-07	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
432-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
432-05	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
432-06	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
439-03	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
439-06	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
439-07	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
444-02	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
444-04	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
444-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
445-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
445-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
445-09	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
625-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
625-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
625-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
303-01	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
303-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
303-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
316-01	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
316-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
316-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
326-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
326-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
326-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
328-01	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/ 2/99 STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
328-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/ 2/99 STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
328-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/ 2/99 STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
328-07	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	6/ 2/99 STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
344-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
344-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
344-06	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
346-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
346-10	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-05	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-06	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-08	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-02	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-06	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-07	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO. : 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	360-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	360-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	360-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	361-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	361-08	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	361-09	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	365-01	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	365-04	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	365-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	374-01	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	374-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY
374-05	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
375-01	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
375-05	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
375-06	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
381-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
381-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
381-07	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
389-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
389-05	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
393-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
393-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
393-05	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
398-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
398-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
398-06	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
402-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
402-04	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
402-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
410-05	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
410-07	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
410-08	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
414-02	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
414-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
414-05	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
416-02	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
416-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
417-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
417-08	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
436-01	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
436-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
436-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
443-03	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
443-04	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	GRADE
443-08	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
451-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
451-04	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
451-05	GROUP:	5.0 MG/KG/DAY SKIN	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: SCABBING LEFT FORELIMB	P
417-06	GROUP:	5.0 MG/KG/DAY EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: TAIL TIP ABSENT DISTAL PORTION, BONE EXPOSED	P
308-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/25/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
308-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/25/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
308-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/25/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
318-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
318-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
ANIMAL NO. 319-04	GROUP:	10.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 319-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 319-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 327-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 331-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 331-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 331-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 333-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 333-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 333-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 336-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
336-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
336-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: DILATED PELVIS RIGHT			1
337-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
337-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
352-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
352-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
352-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
358-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
358-08	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
362-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 362-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 364-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 364-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: FOCI			
				RIGHT LOBE, MULTIPLE, UP TO 0.1 CM DIAMETER, RED			P
ANIMAL NO. 364-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 378-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 378-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 378-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 394-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 394-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 394-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO.	395-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	395-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	396-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY 25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	396-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY 25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	396-08	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY 25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	399-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY 22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	399-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY 22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	399-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY 22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	405-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	405-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY 23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
405-04	GROUP:	10.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
415-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
415-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
434-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
434-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
434-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
435-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
435-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
435-08	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
437-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
437-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	437-06	438-03	438-05	438-07	441-03	441-04	448-01	626-03	626-04	626-05	627-02
ANIMAL NO.	437-06	438-03	438-05	438-07	441-03	441-04	448-01	626-03	626-04	626-05	627-02
GROUP:	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY	10.0 MG/KG/DAY
SEX:	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE	MALE
SCHEDULED EUTHANASIA DATE:	5/30/99	5/28/99	5/28/99	5/28/99	5/28/99	5/28/99	5/27/99	5/26/99	5/26/99	5/26/99	5/25/99
STUDY DAY:	26	24	24	24	24	24	23	22	22	22	21
GROSS OBSERVATIONS:	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED	NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 627-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 627-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 415-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 441-01	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 358-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 306-06	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 311-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 311-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 311-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 317-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 317-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/2/99 STUDY DAY	29
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 317-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 321-06	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 321-08	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 321-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 323-13	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 323-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 323-16	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 345-04	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 345-06	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 345-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 345-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 348-07	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 348-08	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 348-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 353-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 353-15	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 355-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 355-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 355-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 371-02	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 371-04	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 371-05	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
380-10	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
380-13	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
380-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
384-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
388-06	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
388-07	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
388-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
390-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
390-15	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
400-08	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
400-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
400-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
403-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
403-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
403-13	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
408-10	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
408-13	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
408-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
420-03	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
420-04	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
425-09	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
425-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
425-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
426-15	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
426-16	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
426-17	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
427-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
427-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
427-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
449-07	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
449-08	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	450-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	450-14	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	450-15	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	628-09	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	628-11	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	353-12	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	310-07	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	310-08	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	310-09	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	310-10	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	312-07	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA GRADE

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
312-09	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY 24	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
312-11	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY 24	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
313-05	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
313-06	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
313-08	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY 25	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
314-09	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
314-10	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
314-13	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
324-07	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
	DIAPHRAGM		GROSS: THIN AREA			P
			INCOMPLETE HERNIATION OF MUSCULO-TENDINOUS PORTION; 0.3 CM DIAMETER; PORTION OF MEDIAL LIVER LOBE MISSHAPEN AND EXTENDS INTO THIN AREA			
324-09	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY 23	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
324-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
325-09	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
325-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
325-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
329-10	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
329-13	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
354-08	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/ 2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
354-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/ 2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
354-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/ 2/99	STUDY DAY	29
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
363-10	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
363-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 363-15	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 377-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 377-13	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 377-15	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 397-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 397-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 397-14	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 406-13	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 406-14	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 406-15	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 409-10	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
409-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
409-12	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
411-08	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
411-09	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
413-07	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
413-10	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
413-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
419-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
419-12	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
419-13	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
422-09	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
422-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
422-14	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
423-08	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
423-09	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
428-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
428-12	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
428-14	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
429-08	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
429-11	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
430-10	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
430-12	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
430-14	GROUP:	1.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
431-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
431-15	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
431-16	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-09	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
440-14	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-09	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-12	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
447-14	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
629-11	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 629-15	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 304-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 304-13	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 304-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 307-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 307-12	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 307-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 338-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 338-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 338-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 340-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 340-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 342-06	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 342-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 343-10	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 343-13	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 343-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 351-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 351-15	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 356-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 356-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
356-10	GROUP:	2.5 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
357-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
357-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
357-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
359-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
359-15	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
359-16	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
367-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
367-12	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
368-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
368-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	368-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	372-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	372-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	372-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	373-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	373-10	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	373-14	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	382-10	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	382-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	385-05	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
			KIDNEYS		GROSS: DILATED PELVIS LEFT			

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GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	385-06	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	404-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	404-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	418-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	418-08	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	418-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	421-09	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	421-11	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	421-13	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	432-07	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	432-10	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 432-11	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 439-08	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 439-14	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 439-15	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 444-09	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 444-10	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 444-14	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/27/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 445-10	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 445-11	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 445-12	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 625-09	GROUP: 2.5 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	625-10	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	625-12	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	404-08	GROUP:	2.5 MG/KG/DAY LIVER	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25	P
					GROSS: PALE ALL LOBES				
ANIMAL NO.	303-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	303-10	GROUP:	5.0 MG/KG/DAY SPLEEN	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24	P
					GROSS: BIPARTITE				
ANIMAL NO.	303-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	316-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	316-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	316-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
ANIMAL NO.	326-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23	
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP:	5.0 MG/KG/DAY SKIN	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23	GRADE
ANIMAL NO. 326-14	GROUP:	5.0 MG/KG/DAY SKIN	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23	P
GROSS: SCABBING LEFT HINDLIMB							
ANIMAL NO. 328-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/2/99 STUDY DAY	29	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 328-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	6/2/99 STUDY DAY	29	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 330-02	GROUP:	5.0 MG/KG/DAY KIDNEYS	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24	2
GROSS: DILATED PELVIS RIGHT							
GROSS: DISTENDED RIGHT							
ANIMAL NO. 330-03	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY	24	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 344-08	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 344-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 344-12	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99 STUDY DAY	23	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
ANIMAL NO. 346-12	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99 STUDY DAY	25	
GROSS: NO SIGNIFICANT CHANGES OBSERVED							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
346-13	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
346-14	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-11	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-13	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
347-14	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-10	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
350-12	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
360-09	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
360-10	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
360-11	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
361-10	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
361-11	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
361-14	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
365-08	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
365-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
365-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
374-07	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
374-08	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
374-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
375-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
375-13	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
375-14	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO. 381-10 GROUP: 5.0 MG/KG/DAY FEMALE GENERAL COMMENT SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22 P

GROSS: MECHANICAL INJURY  
LESION ON TAIL

ANIMAL NO. 381-12 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 381-14 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/26/99 STUDY DAY 22

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 389-08 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 389-10 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 389-12 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 393-08 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 25

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 393-11 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 25

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 393-13 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/29/99 STUDY DAY 25

GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 398-08 GROUP: 5.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 5/28/99 STUDY DAY 24

GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 398-09	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 398-11	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 402-12	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 402-13	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 402-14	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 410-10	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 410-11	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 410-13	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 414-07	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 414-08	GROUP: 5.0 MG/KG/DAY		FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 414-12	GROUP: 5.0 MG/KG/DAY	LIVER	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NODULE			
				ON PERIPHERY OF BIFURCATION OF MEDIAL LOBE, ONE, 0.3 X 0.2 CM YELLOW, FIRM			

P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 416-12	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 417-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 417-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 417-16	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 436-06	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 436-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 443-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 443-10	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 443-11	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	451-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	451-15	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	451-13	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	326-13	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	308-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	308-16	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	318-06	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	318-07	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	318-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	319-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	319-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	319-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	327-03	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	327-05	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: DILATED PELVIS LEFT			1
ANIMAL NO.	331-07	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	331-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	331-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	333-05	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	333-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	333-10	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	336-07	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 336-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 336-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 337-05	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 337-06	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 337-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 337-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 352-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 352-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 352-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 358-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 358-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	358-14	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	364-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	364-10	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	364-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/29/99	STUDY DAY	25
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	378-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	378-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	378-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	394-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	394-14	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	395-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO.	395-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
					GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99 STUDY DAY 24	GRADE
395-13	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
396-09	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
396-11	GROUP:	10.0 MG/KG/DAY KIDNEYS	FEMALE	GROSS: DILATED PELVIS LEFT		1
396-15	GROUP:	10.0 MG/KG/DAY KIDNEYS	FEMALE	GROSS: DILATED PELVIS BILATERAL		2
399-10	GROUP:	10.0 MG/KG/DAY DIAPHRAGM	FEMALE	GROSS: HERNIA		P
399-13	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
399-14	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
405-06	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
405-07	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 405-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 415-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 415-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 415-14	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 434-11	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 434-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 435-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 435-14	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 435-15	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/27/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 437-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 437-10	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/30/99	STUDY DAY	26
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
438-11	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
438-14	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
438-16	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
441-08	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
441-11	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
448-03	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
626-08	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
626-09	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
626-12	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
627-08	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
627-09	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PUP GROSS NECROPSY OBSERVATIONS

APPENDIX Z

PAGE 78

GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
627-10	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
626-10	GROUP:	10.0 MG/KG/DAY	FEMALE a	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
308-15	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/25/99	STUDY DAY	21
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
362-05	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/26/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
441-07	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	5/28/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

(790)

SLI Study No. 3472.4

APPENDIX AA

Individual F1 Parental Survival and Clinical Observations  
(Positive Findings)

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
306-01	M 0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		1 HAIRLOSS
		BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	118		1 HAIRLOSS
		DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	15		P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
306-02	M 0 MG/KG/DAY	BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	118		1 HAIRLOSS
		DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	71		1 HAIRLOSS
		311-06	M 0 MG/KG/DAY	BODY	78
BODY	85				1 HAIRLOSS
BODY	92				1 HAIRLOSS
BODY	99				1 HAIRLOSS
BODY	106				1 HAIRLOSS
BODY	113				1 HAIRLOSS
BODY	118				1 HAIRLOSS
DEAD	118				P SCHEDULED EUTHANASIA
NOSE/MOUTH	43				P INCISOR(S) - TRIMMED
DEAD	118				P SCHEDULED EUTHANASIA
317-04	M 0 MG/KG/DAY			NOSE/MOUTH	43
		BODY	71		1 HAIRLOSS
		BODY	78		1 HAIRLOSS
		BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	118		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
317-04	M 0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
321-01	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
321-04	M 0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	93	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	118	P SCHEDULED EUTHANASIA
323-05	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
323-06	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		DEAD	119	P SCHEDULED EUTHANASIA
345-01	M 0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	P HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
348-04	M 0 MG/KG/DAY	DEAD	119	P SCHEDULED EUTHANASIA
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
348-04	M 0 MG/KG/DAY	BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	P HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
353-06	M 0 MG/KG/DAY	DEAD	119	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
355-05	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	87	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	119	P SCHEDULED EUTHANASIA
		BODY	29	P SCAB(S) - LEFT LATERAL NECK
371-01	M 0 MG/KG/DAY	BODY	36	P SCAB(S) - LEFT LATERAL NECK
		BODY	36	P SCAB(S) - RIGHT LATERAL NECK
		BODY	43	P SCAB(S) - LEFT LATERAL NECK
		BODY	43	P SCAB(S) - RIGHT LATERAL NECK
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	P SCAB(S) - LEFT LATERAL NECK
		BODY	50	P SCAB(S) - RIGHT LATERAL NECK
		BODY	57	P SCAB(S) - LEFT LATERAL NECK
		BODY	64	P SCAB(S) - LEFT LATERAL NECK
		BODY	71	P SCAB(S) - LEFT SHOULDER
BODY	78	P SCAB(S) - LEFT SHOULDER		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
371-01	M 0 MG/KG/DAY	BODY	92	1	HAI RLOSS
		BODY	99	1	HAI RLOSS
380-04	M 0 MG/KG/DAY	DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
384-05	M 0 MG/KG/DAY	DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	78	1	HAI RLOSS
		BODY	85	1	HAI RLOSS
388-03	M 0 MG/KG/DAY	BODY	99	1	HAI RLOSS
		BODY	106	1	HAI RLOSS
		BODY	113	1	HAI RLOSS
		BODY	120	1	HAI RLOSS
390-04	M 0 MG/KG/DAY	DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
400-06	M 0 MG/KG/DAY	DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	50	1	HAI RLOSS
		BODY	50	P	SCAB(S) - LEFT FORELIMB
355-02	M 0 MG/KG/DAY	BODY	78	1	HAI RLOSS
		BODY	85	1	HAI RLOSS
		BODY	92	1	HAI RLOSS
		BODY	99	1	HAI RLOSS
		BODY	106	1	HAI RLOSS
		NOSE/MOUTH	106	P	MALALIGNMENT
		BODY	113	1	HAI RLOSS
		DEAD	120	P	SCHEDULED EUTHANASIA
NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
355-02	M 0 MG/KG/DAY	DEAD	121		P SCHEDULED EUTHANASIA
403-06	M 0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	121		P SCHEDULED EUTHANASIA
408-03	M 0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
420-02	M 0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	121		P SCHEDULED EUTHANASIA
425-07	M 0 MG/KG/DAY	NOSE/MOUTH	15		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	120		P SCAB(S) - DORSAL HEAD
		DEAD	121		P SCHEDULED EUTHANASIA
426-05	M 0 MG/KG/DAY	BODY	36		1 HAI RLOSS
		BODY	43		1 HAI RLOSS
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	50		1 HAI RLOSS
		BODY	57		1 HAI RLOSS
		BODY	64		1 HAI RLOSS
		BODY	71		1 HAI RLOSS
		BODY	78		1 HAI RLOSS
		BODY	85		1 HAI RLOSS
		BODY	92		1 HAI RLOSS
		BODY	99		1 HAI RLOSS
		BODY	106		1 HAI RLOSS
		BODY	113		1 HAI RLOSS
		BODY	120		1 HAI RLOSS
		BODY	121		1 HAI RLOSS
427-02	M 0 MG/KG/DAY	DEAD	121		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
449-05	M 0 MG/KG/DAY	DEAD	122		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
449-05	M 0 MG/KG/DAY	OTHER	100	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		DEAD	122	P SCHEDULED EUTHANASIA
450-06	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
628-04	M 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
310-01	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
312-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	106	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	118	P MALALIGNMENT
		DEAD	118	P MALALIGNMENT
312-06	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		DEAD	118	P INCISOR(S) - TRIMMED
313-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		DEAD	118	P INCISOR(S) - TRIMMED
314-03	M 1.0 MG/KG/DAY	BODY	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	1 HAIRLOSS
		BODY	50	P INCISOR(S) - TRIMMED
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
314-03	M 1.0 MG/KG/DAY	BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	118		1 HAIRLOSS
324-02	M 1.0 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	57		1 HAIRLOSS
		BODY	57		1 HAIRLOSS
		BODY	64		P HAIRLOSS
		BODY	71		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
325-08	M 1.0 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	119		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
329-05	M 1.0 MG/KG/DAY	DEAD	119		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
354-05	M 1.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		ACTIVITY	108		P GASPING
		ACTIVITY	108		P RALES
		ACTIVITY	108		P ACTIVITY DECREASED
363-06	M 1.0 MG/KG/DAY	BODY	108		P EXTREMITIES - PALE IN COLOR
		DEAD	108		P FOUND DEAD
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
377-05	M 1.0 MG/KG/DAY	DEAD	119		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	85		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
377-05	M 1.0 MG/KG/DAY	BODY	92	1	HAI RLOSS
		BODY	99	1	HAI RLOSS
		BODY	106	1	HAI RLOSS
		BODY	113	1	HAI RLOSS
		BODY	119	1	HAI RLOSS
397-02	M 1.0 MG/KG/DAY	DEAD	119	P	SCHEDULED EUTHANASIA
		EYES	29	P	DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		NOSE/MOUTH	106	P	MISSING INCISOR(S)
		NOSE/MOUTH	113	P	MISSING INCISOR(S)
		NOSE/MOUTH	119	P	MISSING INCISOR(S)
		DEAD	119	P	MALALIGNMENT
397-06	M 1.0 MG/KG/DAY	NOSE/MOUTH	15	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
406-07	M 1.0 MG/KG/DAY	DEAD	43	P	SCHEDULED EUTHANASIA
		DEAD	120	P	SCHEDULED EUTHANASIA
		BODY	43	P	SCAB(S) - LEFT SHOULDER
409-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	50	P	SCAB(S) - LEFT SHOULDER
		BODY	71	P	SCAB(S) - LEFT SHOULDER
		DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
411-01	M 1.0 MG/KG/DAY	OTHER	59	P	UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	120	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
413-04	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		DEAD	120	P	SCHEDULED EUTHANASIA
419-10	M 1.0 MG/KG/DAY	BODY	36	P	SCAB(S) - LEFT SHOULDER
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
419-10	M 1.0 MG/KG/DAY	DEAD	120	P SCHEDULED EUTHANASIA
422-04	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	121	P SCHEDULED EUTHANASIA
423-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	3	P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	64	P DARK MATERIAL AROUND NOSE
		DEAD	69	P FOUND DEAD
428-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	85	P SCAB(S) - RIGHT FORELIMB
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		DEAD	121	P SCHEDULED EUTHANASIA
428-09	M 1.0 MG/KG/DAY	BODY	15	P SCAB(S) - RIGHT FORELIMB
		NOSE/MOUTH	15	P SCAB(S) - MOUTH AREA
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
428-09	M 1.0 MG/KG/DAY	BODY	121	1 HAIRLOSS
		DEAD	121	P SCHEDULED EUTHANASIA
429-06	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	P HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		DEAD	121	P SCHEDULED EUTHANASIA
430-06	M 1.0 MG/KG/DAY	BODY	36	P SCAB(S) - LEFT SHOULDER
		BODY	36	P SCAB(S) - RIGHT LATERAL NECK
		BODY	36	P SCAB(S) - RIGHT SHOULDER
		BODY	36	P SCAB(S) - DORSAL HEAD
		BODY	43	P SCAB(S) - DORSAL HEAD
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		DEAD	121	P SCHEDULED EUTHANASIA

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
431-03	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	66	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	85	1 HAIRLOSS
		OTHER	87	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	92	1 HAIRLOSS
		NOSE/MOUTH	92	P DARK MATERIAL AROUND NOSE
		BODY	99	1 HAIRLOSS
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		BODY	106	1 HAIRLOSS
		NOSE/MOUTH	106	P MALALIGNMENT
		NOSE/MOUTH	113	P MALALIGNMENT
		BODY	120	1 HAIRLOSS
		NOSE/MOUTH	120	P MALALIGNMENT
NOSE/MOUTH	122	P MALALIGNMENT		
DEAD	122	P SCHEDULED EUTHANASIA		
440-04	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
447-02	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		DEAD	122	P INCISOR(S) - TRIMMED
629-07	M 1.0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		DEAD	122	P INCISOR(S) - TRIMMED
304-05	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P SCAB(S) - MOUTH AREA
307-02	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
332-02	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
338-01	M 2.5 MG/KG/DAY	NOSE/MOUTH	36		P DARK MATERIAL AROUND NOSE
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
340-01	M 2.5 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
340-07	M 2.5 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
342-03	M 2.5 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		EYES	50		P EYELIDS PARTIALLY CLOSED
		EYES	57		P EYELIDS PARTIALLY CLOSED
		EYES	64		P EYELIDS PARTIALLY CLOSED
		EYES	71		P EYELIDS PARTIALLY CLOSED
		EYES	78		P EYELIDS PARTIALLY CLOSED
		EYES	85		P EYELIDS PARTIALLY CLOSED
		EYES	92		P EYELIDS PARTIALLY CLOSED
		EYES	99		P EYELIDS PARTIALLY CLOSED
		OTHER	100		P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		EYES	106		P EYELIDS PARTIALLY CLOSED
		EYES	113		P EYELIDS PARTIALLY CLOSED
		EYES	119		P EYELIDS PARTIALLY CLOSED
DEAD	119		P SCHEDULED EUTHANASIA		
343-03	M 2.5 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	119		P SCHEDULED EUTHANASIA
351-08	M 2.5 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	119		P SCHEDULED EUTHANASIA
356-01	M 2.5 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		EYES	106		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106		P MALALIGNMENT

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
356-01	M 2.5 MG/KG/DAY	NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	119	P MALALIGNMENT
		DEAD	119	P SCHEDULED EUTHANASIA
356-02	M 2.5 MG/KG/DAY	BODY	29	P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
357-04	M 2.5 MG/KG/DAY	BODY	119	1 HAIRLOSS
		DEAD	119	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	99	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	119	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
359-08	M 2.5 MG/KG/DAY	EYES	57	P DARK MATERIAL AROUND EYE(S)
		EYES	57	P MALALIGNMENT
		EYES	64	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	64	P MALALIGNMENT
		EYES	71	P DARK MATERIAL AROUND EYE(S)
		EYES	78	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	78	P MALALIGNMENT
		EYES	85	P DARK MATERIAL AROUND EYE(S)
		EYES	85	P EYELIDS PARTIALLY CLOSED
		NOSE/MOUTH	85	P MALALIGNMENT
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	92	P MALALIGNMENT
EYES	99	P DARK MATERIAL AROUND EYE(S)		
NOSE/MOUTH	99	P MALALIGNMENT		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
359-08	M 2.5 MG/KG/DAY	EYES	106		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106		P MALALIGNMENT
		EYES	113		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113		P MALALIGNMENT
		EYES	120		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	120		P MALALIGNMENT
367-03	M 2.5 MG/KG/DAY	DEAD	120		P SCHEDULED EUTHANASIA
		BODY	43		P SCAB(S) - RIGHT FORELIMB
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	50		1 HAIRLOSS
		BODY	71		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		DEAD	120		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	120		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P DARK MATERIAL AROUND NOSE
372-04	M 2.5 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	120		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	120		P SCHEDULED EUTHANASIA
373-04	M 2.5 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	120		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	120		P SCHEDULED EUTHANASIA
373-06	M 2.5 MG/KG/DAY	BODY	78		1 HAIRLOSS
		BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		EYES	92		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106		P MALALIGNMENT
		NOSE/MOUTH	113		P MALALIGNMENT
		DEAD	120		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	43		1 HAIRLOSS
		BODY	78		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
382-03	M 2.5 MG/KG/DAY	DEAD	121	P SCHEDULED EUTHANASIA
385-04	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
404-03	M 2.5 MG/KG/DAY	DEAD	121	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	62	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	121	P SCHEDULED EUTHANASIA
418-05	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	121	P SCHEDULED EUTHANASIA
421-03	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	121	P SCHEDULED EUTHANASIA
432-04	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	121	P SCHEDULED EUTHANASIA
439-02	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	98	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	122	P SCHEDULED EUTHANASIA
444-01	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAIRLOSS
		DEAD	122	P SCHEDULED EUTHANASIA
445-03	M 2.5 MG/KG/DAY	BODY	43	P SCAB(S) - RIGHT PINNA
		NOSE/MOUTH	43	P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	P SCAB(S) - RIGHT PINNA
		DEAD	122	P SCHEDULED EUTHANASIA
625-02	M 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	71	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	122	P SCHEDULED EUTHANASIA
303-03	M 5.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	71	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
303-03	M 5.0 MG/KG/DAY	BODY	92	1 HAIRLOSS
		DEAD	118	P SCHEDULED EUTHANASIA
316-02	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	109	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	118	P SCHEDULED EUTHANASIA
326-05	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	118	P MALALIGNMENT
		DEAD	118	P SCHEDULED EUTHANASIA
328-04	M 5.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		DEAD	118	P SCHEDULED EUTHANASIA
344-05	M 5.0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	64	P HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		DEAD	118	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
346-05	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	118	P SCHEDULED EUTHANASIA
346-09	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
347-07	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
350-09	M 5.0 MG/KG/DAY	BODY	3	P TAIL TIP ABSENT
		BODY	8	P TAIL TIP ABSENT
		BODY	15	P TAIL TIP ABSENT
		BODY	22	P TAIL TIP ABSENT
		BODY	29	P TAIL TIP ABSENT
		BODY	36	P TAIL TIP ABSENT
		BODY	43	P TAIL TIP ABSENT
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	P TAIL TIP ABSENT
		BODY	57	P TAIL TIP ABSENT
		OTHER	87	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	92	P MALALIGNMENT
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	99	P MALALIGNMENT
		EYES	106	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106	P MALALIGNMENT
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	113	P INCISOR(S) - TRIMMED
		EYES	119	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	119	P MALALIGNMENT

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
350-09	M 5.0 MG/KG/DAY	DEAD	119	P SCHEDULED EUTHANASIA
360-04	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	64	P HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		DEAD	119	P SCHEDULED EUTHANASIA
361-04	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
365-05	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
374-04	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		DEAD	120	P SCHEDULED EUTHANASIA
375-02	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		EYES	57	P DARK MATERIAL AROUND EYE(S)
		DEAD	120	P SCHEDULED EUTHANASIA
381-02	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	120	P SCHEDULED EUTHANASIA
389-04	M 5.0 MG/KG/DAY	BODY	15	P TAIL TIP ABSENT
		BODY	22	P TAIL TIP ABSENT
		BODY	29	P TAIL TIP ABSENT

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
389-04	M 5.0 MG/KG/DAY	BODY	36	P TAIL TIP ABSENT
		BODY	43	P TAIL TIP ABSENT
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
393-06	M 5.0 MG/KG/DAY	BODY	92	1 HAIRLOSS
		ACTIVITY	113	P RALES
		DEAD	120	P SCHEDULED EUTHANASIA
		BODY	43	P SCAB(S) - RIGHT FORELIMB
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAIRLOSS
		DEAD	120	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	120	P MALALIGNMENT
		DEAD	120	P SCHEDULED EUTHANASIA
402-06	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		DEAD	121	P SCHEDULED EUTHANASIA
		BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
410-04	M 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	57	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
410-04	M 5.0 MG/KG/DAY	BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	120	P SCAB(S) - RIGHT FORELIMB
		DEAD	121	P SCHEDULED EUTHANASIA
		BODY	43	P SCAB(S) - RIGHT FORELIMB
		BODY	43	P SCAB(S) - LEFT FORELIMB
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		EYES	50	P DARK MATERIAL AROUND EYE(S)
414-06	M 5.0 MG/KG/DAY	NOSE/MOUTH	50	P MALALIGNMENT
		EYES	57	P INCISOR(S) - TRIMMED
		EYES	71	P DARK MATERIAL AROUND EYE(S)
		EYES	78	P DARK MATERIAL AROUND EYE(S)
		EYES	85	P DARK MATERIAL AROUND EYE(S)
		EYES	85	P DARK MATERIAL AROUND EYE(S)
		BODY	92	P EYELIDS PARTIALLY CLOSED
		EYES	92	1 HAIRLOSS
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		EYES	106	P DARK MATERIAL AROUND EYE(S)
416-01	M 5.0 MG/KG/DAY	NOSE/MOUTH	106	P MALALIGNMENT
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	113	P INCISOR(S) - TRIMMED
		EYES	120	P DARK MATERIAL AROUND EYE(S)
		EYES	121	P DARK MATERIAL AROUND EYE(S)
		DEAD	121	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
416-01	M 5.0 MG/KG/DAY	NOSE/MOUTH	91	P INCISOR(S) - BROKEN
		NOSE/MOUTH	91	P REDDISH COLORED MATERIAL EXUDING FROM MOUTH
		POST-DOSE OBS	91	P CONGESTED BREATHING
		DEAD	121	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	121	P SCHEDULED EUTHANASIA
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAIRLOSS
		BODY	64	P HAIRLOSS
416-03	M 5.0 MG/KG/DAY	BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	121	P SCHEDULED EUTHANASIA
389-06	M 5.0 MG/KG/DAY	DEAD	4	P SCAB(S) - TAIL
		BODY	8	P SCAB(S) - TAIL
		BODY	15	P SCAB(S) - TAIL
		BODY	22	P TAIL BENT - MID PORTION
		BODY	29	P TAIL BENT - MID PORTION
		BODY	36	P TAIL BENT - MID PORTION
		BODY	43	P TAIL BENT - MID PORTION
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	P TAIL BENT - MID PORTION

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
389-06	M 5.0 MG/KG/DAY	BODY	57	P TAIL BENT - MID PORTION
		BODY	71	P TAIL BENT - MID PORTION
		BODY	78	P TAIL BENT - MID PORTION
		BODY	85	P TAIL BENT - MID PORTION
		OTHER	86	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	92	P TAIL BENT - MID PORTION
		BODY	99	P TAIL BENT - MID PORTION
		BODY	106	P TAIL BENT - MID PORTION
		DEAD	122	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
436-02	M 5.0 MG/KG/DAY	BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		DEAD	122	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
443-05	M 5.0 MG/KG/DAY	DEAD	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
		DEAD	122	P SCHEDULED EUTHANASIA
451-01	M 5.0 MG/KG/DAY	DEAD	43	P INCISOR(S) - TRIMMED
		DEAD	122	P SCHEDULED EUTHANASIA
		DEAD	122	P SCHEDULED EUTHANASIA
308-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		BODY	106	P RED AND SWOLLEN PINNA(E)
		EYES	106	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	106	P MALALIGNMENT
		EYES	113	P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
308-02	M 10.0 MG/KG/DAY	BODY	113		P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	113		P MALALIGNMENT
		BODY	118		P RED AND SWOLLEN PINNA(E)
		EYES	118		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	118		P MALALIGNMENT
318-03	M 10.0 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		NOSE/MOUTH	99		P SCAB(S) - MOUTH AREA
		DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
319-07	M 10.0 MG/KG/DAY	DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	118		P SCHEDULED EUTHANASIA
327-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	36		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P SCAB(S) - MOUTH AREA
		BODY	43		P INCISOR(S) - TRIMMED
		EYES	78		1 HAIRLOSS
		BODY	78		P DARK MATERIAL AROUND EYE(S)
		BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		NOSE/MOUTH	106		P MISSING INCISOR(S)
		NOSE/MOUTH	113		P MISSING INCISOR(S)
		NOSE/MOUTH	118		P MISSING INCISOR(S)
		DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	118		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
331-06	M 10.0 MG/KG/DAY	BODY	50		P SCAB(S) - RIGHT PINNA
		OTHER	66		P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	71		1 HAIRLOSS
		BODY	92		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
333-04	M 10.0 MG/KG/DAY	DEAD	118	P SCHEDULED EUTHANASIA
336-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
337-04	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	97	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		DEAD	119	P SCHEDULED EUTHANASIA
352-08	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	46	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
		BODY	50	P SCAB(S) - RIGHT PINNA
		DEAD	119	P SCHEDULED EUTHANASIA
358-04	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
362-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	99	1 HAIRLOSS
		DEAD	119	P SCHEDULED EUTHANASIA
364-03	M 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	119	P SCHEDULED EUTHANASIA
378-08	M 10.0 MG/KG/DAY	BODY	36	1 HAIRLOSS
		BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		DEAD	120	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
394-05	M 10.0 MG/KG/DAY	NOSE/MOUTH OTHER	43	P INCISOR(S) - TRIMMED
		DEAD	66	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING
395-06	M 10.0 MG/KG/DAY	NOSE/MOUTH	120	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
396-01	M 10.0 MG/KG/DAY	NOSE/MOUTH	120	P SCHEDULED EUTHANASIA
		EYES	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	113	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	113	P MALALIGNMENT
		NOSE/MOUTH	113	P INCISOR(S) - TRIMMED
		EYES	120	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	120	P MALALIGNMENT
399-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	120	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
405-05	M 10.0 MG/KG/DAY	NOSE/MOUTH	120	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
415-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	120	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
434-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	121	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
435-03	M 10.0 MG/KG/DAY	NOSE/MOUTH	121	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
437-03	M 10.0 MG/KG/DAY	NOSE/MOUTH	121	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
437-05	M 10.0 MG/KG/DAY	NOSE/MOUTH	121	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
438-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	121	P SCHEDULED EUTHANASIA
		OTHER	43	P INCISOR(S) - TRIMMED
			98	P UNKNOWN AMOUNT OF TEST ARTICLE EXPELLED DURING DOSING

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
438-02	M 10.0 MG/KG/DAY	DEAD	121		P SCHEDULED EUTHANASIA
441-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	122		P SCHEDULED EUTHANASIA
448-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		EYES	99		P DARK MATERIAL AROUND EYE(S)
		DEAD	122		P SCHEDULED EUTHANASIA
626-02	M 10.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	122		P SCHEDULED EUTHANASIA
627-07	M 10.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		1 HAIRLOSS
		BODY	85		1 HAIRLOSS
		BODY	92		1 HAIRLOSS
		BODY	99		1 HAIRLOSS
		BODY	106		1 HAIRLOSS
		BODY	113		1 HAIRLOSS
		BODY	120		1 HAIRLOSS
		BODY	122		1 HAIRLOSS
		DEAD	122		P SCHEDULED EUTHANASIA

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
306-05	F 0 MG/KG/DAY	BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
306-05	F 0 MG/KG/DAY	BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
311-13	F 0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		DEAD	43	P INCISOR(S) - TRIMMED
317-13	F 0 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		BODY	43	P INCISOR(S) - TRIMMED
321-10	F 0 MG/KG/DAY	BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		DEAD	132	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	132	P SCHEDULED EUTHANASIA
323-12	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	106	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		NOSE/MOUTH	127	P DARK MATERIAL AROUND NOSE
		DEAD	132	P SCHEDULED EUTHANASIA
345-05	F 0 MG/KG/DAY	NOSE/MOUTH	36	P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		ACTIVITY	113	P LIMPING - LEFT HINDPAW
		BODY	113	P SWELLING - LEFT HINDPAW

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
345-05	F 0 MG/KG/DAY	ACTIVITY	114	P LIMPING - LEFT HINDPAW
		BODY	114	P SWELLING - LEFT HINDPAW
		ACTIVITY	115	P LIMPING - LEFT HINDPAW
		BODY	115	P SWELLING - LEFT HINDPAW
		DEAD	130	P SCHEDULED EUTHANASIA
345-08	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		DEAD	129	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
348-13	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
353-11	F 0 MG/KG/DAY	BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	95	1 HAI RLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
353-11	F	0 MG/KG/DAY	96	1 HAIRLOSS
			97	1 HAIRLOSS
			98	1 HAIRLOSS
			99	1 HAIRLOSS
			100	1 HAIRLOSS
			101	1 HAIRLOSS
			102	1 HAIRLOSS
			103	1 HAIRLOSS
			104	1 HAIRLOSS
			105	1 HAIRLOSS
			106	1 HAIRLOSS
			107	1 HAIRLOSS
			108	1 HAIRLOSS
			109	1 HAIRLOSS
			110	1 HAIRLOSS
			111	1 HAIRLOSS
			112	1 HAIRLOSS
			113	1 HAIRLOSS
			114	1 HAIRLOSS
			115	1 HAIRLOSS
			116	1 HAIRLOSS
			117	1 HAIRLOSS
			118	1 HAIRLOSS
			119	1 HAIRLOSS
			120	1 HAIRLOSS
			121	1 HAIRLOSS
			122	1 HAIRLOSS
			123	1 HAIRLOSS
			124	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
353-11	F 0 MG/KG/DAY	BODY	125	1	HAI RLOSS
		BODY	126	1	HAI RLOSS
		BODY	127	1	HAI RLOSS
		BODY	128	1	HAI RLOSS
		BODY	129	1	HAI RLOSS
355-13	F 0 MG/KG/DAY	BODY	130	1	HAI RLOSS
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		OTHER	106	P	UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		DEAD	131	P	SCHEDULED EUTHANASIA
371-03	F 0 MG/KG/DAY	NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		OTHER	106	P	UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		BODY	130	P	RED AND SWOLLEN TEET - RIGHT INGUINAL
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
380-09	F 0 MG/KG/DAY	BODY	43	P	INCISOR(S) - TRIMMED
		DEAD	131	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		DEAD	132	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
384-13	F 0 MG/KG/DAY	DEAD	43	P	INCISOR(S) - TRIMMED
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		DEAD	43	P	INCISOR(S) - TRIMMED
388-13	F 0 MG/KG/DAY	BODY	57	1	HAI RLOSS
		BODY	64	1	HAI RLOSS
		BODY	71	1	HAI RLOSS
		BODY	78	1	HAI RLOSS
		BODY	85	1	HAI RLOSS
390-09	F 0 MG/KG/DAY	BODY	86	1	HAI RLOSS
		BODY	87	1	HAI RLOSS
		BODY	87	1	HAI RLOSS
		BODY	88	1	HAI RLOSS
		BODY	88	1	HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
390-09	F	0 MG/KG/DAY	89	1 HAIRLOSS
			90	1 HAIRLOSS
			91	1 HAIRLOSS
			91	P RED AND SWOLLEN PINNA(E)
			92	P RED AND SWOLLEN PINNA(E)
			92	1 HAIRLOSS
			93	1 HAIRLOSS
			93	P RED AND SWOLLEN PINNA(E)
			94	1 HAIRLOSS
			94	P RED AND SWOLLEN PINNA(E)
			95	P RED AND SWOLLEN PINNA(E)
			95	1 HAIRLOSS
			96	P RED AND SWOLLEN PINNA(E)
			96	1 HAIRLOSS
			97	1 HAIRLOSS
			97	P RED AND SWOLLEN PINNA(E)
			98	1 HAIRLOSS
			98	P RED AND SWOLLEN PINNA(E)
			99	1 HAIRLOSS
			100	1 HAIRLOSS
			101	1 HAIRLOSS
			102	1 HAIRLOSS
			103	1 HAIRLOSS
			104	1 HAIRLOSS
			105	1 HAIRLOSS
			106	1 HAIRLOSS
			107	1 HAIRLOSS
			108	1 HAIRLOSS
			109	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
390-09	F 0 MG/KG/DAY	BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		DEAD	129	P SCHEDULED EUTHANASIA
390-11	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	143	P SCHEDULED EUTHANASIA
400-10	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	100	P DARK MATERIAL AROUND NOSE
		DEAD	130	P SCHEDULED EUTHANASIA
403-12	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX AA  
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INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
403-12	F 0 MG/KG/DAY	BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
408-12	F 0 MG/KG/DAY	BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	P RED AND SWOLLEN PINNA(E)
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	99	P RED AND SWOLLEN PINNA(E)

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
408-12	F 0 MG/KG/DAY	BODY	100	P RED AND SWOLLEN PINNA(E)
		BODY	101	P RED AND SWOLLEN PINNA(E)
		BODY	102	P RED AND SWOLLEN PINNA(E)
		BODY	103	P RED AND SWOLLEN PINNA(E)
		DEAD	131	P SCHEDULED EUTHANASIA
420-05	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
425-13	F 0 MG/KG/DAY	OTHER	10	P FOUND CAUGHT IN CAGE SIPPER HOLE
		OTHER	10	P CANNIBALIZED BY CAGE MATE
		DEAD	10	P FOUND DEAD - ACCIDENTAL INJURY
426-14	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
426-14	F 0 MG/KG/DAY	BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		NOSE/MOUTH	108	P SCAB(S) - MOUTH AREA
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
426-14	F 0 MG/KG/DAY	BODY	129	1 HAIRLOSS
427-14	F 0 MG/KG/DAY	DEAD	129	P SCHEDULED EUTHANASIA
449-11	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	111	P SCHEDULED EUTHANASIA - GESTATION DAY 25
449-12	F 0 MG/KG/DAY	BODY	43	1 HAIRLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
450-13	F 0 MG/KG/DAY	DEAD	129	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

APPENDIX AA

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
450-13	F 0 MG/KG/DAY	DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
628-07	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	85	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	88	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	89	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	90	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	91	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	92	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	93	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	94	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	95	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	96	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	97	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	98	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	99	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	100	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	101	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	102	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	103	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	107	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	108	P WHITE RAISED AREA - RIGHT FOREPAW
		OTHER	108	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		BODY	109	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	110	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	111	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	112	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	113	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	114	P WHITE RAISED AREA - RIGHT FOREPAW

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
628-07	F 0 MG/KG/DAY	BODY	115	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	116	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	117	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	118	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	119	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	120	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	121	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	122	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	123	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	124	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	125	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	126	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	127	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	128	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	129	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	130	P WHITE RAISED AREA - RIGHT FOREPAW
		BODY	131	P WHITE RAISED AREA - RIGHT FOREPAW
		DEAD	131	P SCHEDULED EUTHANASIA
628-12	F 0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS

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

APPENDIX AA  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
628-12	F 0 MG/KG/DAY	BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
310-04	F 1.0 MG/KG/DAY	DEAD	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		NOSE/MOUTH	107	P MISSING INCISOR(S)
		NOSE/MOUTH	108	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	108	P MISSING INCISOR(S)
		NOSE/MOUTH	109	P MISSING INCISOR(S)
		NOSE/MOUTH	112	P MISSING INCISOR(S)
NOSE/MOUTH	113	P MISSING INCISOR(S)		
NOSE/MOUTH	114	P MISSING INCISOR(S)		
NOSE/MOUTH	115	P MISSING INCISOR(S)		
NOSE/MOUTH	116	P MISSING INCISOR(S)		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
310-04	F 1.0 MG/KG/DAY	NOSE/MOUTH	117	P MISSING INCISOR(S)
		NOSE/MOUTH	118	P MISSING INCISOR(S)
		NOSE/MOUTH	119	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	119	P MISSING INCISOR(S)
		NOSE/MOUTH	120	P MISSING INCISOR(S)
		NOSE/MOUTH	121	P MISSING INCISOR(S)
		NOSE/MOUTH	122	P MISSING INCISOR(S)
		NOSE/MOUTH	123	P MISSING INCISOR(S)
		NOSE/MOUTH	124	P MISSING INCISOR(S)
		NOSE/MOUTH	125	P MISSING INCISOR(S)
		NOSE/MOUTH	126	P MISSING INCISOR(S)
		BODY	127	1 HAIRLOSS
		NOSE/MOUTH	127	P MISSING INCISOR(S)
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
312-08	F 1.0 MG/KG/DAY	NOSE/MOUTH	129	P MISSING INCISOR(S)
		NOSE/MOUTH	130	P MISSING INCISOR(S)
		NOSE/MOUTH	131	P MISSING INCISOR(S)
		DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	106	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		DEAD	130	P SCHEDULED EUTHANASIA
313-07	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		EYES	118	P DARK MATERIAL AROUND EYE(S)
		EYES	119	P DARK MATERIAL AROUND EYE(S)
		EYES	120	P DARK MATERIAL AROUND EYE(S)
		EYES	121	P DARK MATERIAL AROUND EYE(S)
		EYES	122	P DARK MATERIAL AROUND EYE(S)
		EYES	123	P DARK MATERIAL AROUND EYE(S)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
313-07	F 1.0 MG/KG/DAY	EYES	124	P DARK MATERIAL AROUND EYE(S)
		EYES	125	P DARK MATERIAL AROUND EYE(S)
314-12	F 1.0 MG/KG/DAY	DEAD	133	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
324-12	F 1.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS

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



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX AA  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
324-12	F 1.0 MG/KG/DAY	BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
		BODY	132	1 HAIRLOSS
		DEAD	132	P SCHEDULED EUTHANASIA
325-13	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
329-11	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAIRLOSS
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	100	1 HAIRLOSS
		BODY	100	P RED AND SWOLLEN PINNA(E)
		BODY	101	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX AA  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
329-11	F 1.0 MG/KG/DAY	BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		BODY	131	1 HAI RLOSS
329-12	F 1.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX AA

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
329-12	F 1.0 MG/KG/DAY	DEAD	129	P SCHEDULED EUTHANASIA
354-10	F 1.0 MG/KG/DAY	EYES	37	P OCULAR LESION - LEFT EYE
		EYES	43	P OCULAR LESION - LEFT EYE
		EYES	50	P OCULAR LESION - LEFT EYE
		EYES	64	P OCULAR LESION - LEFT EYE
		EYES	71	P OCULAR LESION - LEFT EYE
		EYES	78	P OCULAR LESION - LEFT EYE
		EYES	85	P OCULAR LESION - LEFT EYE
		EYES	86	P OCULAR LESION - LEFT EYE
		EYES	87	P OCULAR LESION - LEFT EYE
		EYES	88	P OCULAR LESION - LEFT EYE
		EYES	89	P OCULAR LESION - LEFT EYE
		EYES	90	P OCULAR LESION - LEFT EYE
		EYES	91	P OCULAR LESION - LEFT EYE
		EYES	92	P OCULAR LESION - LEFT EYE
		EYES	93	P OCULAR LESION - LEFT EYE
		EYES	94	P OCULAR LESION - LEFT EYE
		EYES	95	P OCULAR LESION - LEFT EYE
		EYES	96	P OCULAR LESION - LEFT EYE
		EYES	97	P OCULAR LESION - LEFT EYE
		EYES	97	P LEFT EYE SMALL IN SIZE
		EYES	98	P OCULAR LESION - LEFT EYE
		EYES	98	P LEFT EYE SMALL IN SIZE
		EYES	99	P LEFT EYE SMALL IN SIZE
		EYES	99	P OCULAR LESION - LEFT EYE
		EYES	100	P OCULAR LESION - LEFT EYE
		EYES	100	P LEFT EYE SMALL IN SIZE
		EYES	101	P OCULAR LESION - LEFT EYE
		EYES	101	P LEFT EYE SMALL IN SIZE

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
354-10	F 1.0 MG/KG/DAY	EYES	102	P OCULAR LESION - LEFT EYE
		EYES	102	P LEFT EYE SMALL IN SIZE
		EYES	103	P OCULAR LESION - LEFT EYE
		EYES	103	P LEFT EYE SMALL IN SIZE
		EYES	104	P LEFT EYE SMALL IN SIZE
		EYES	105	P LEFT EYE SMALL IN SIZE
		EYES	107	P LEFT EYE SMALL IN SIZE
		EYES	108	P OCULAR LESION - LEFT EYE
		EYES	108	P LEFT EYE SMALL IN SIZE
		EYES	109	P LEFT EYE SMALL IN SIZE
		EYES	110	P LEFT EYE SMALL IN SIZE
		EYES	111	P OCULAR LESION - LEFT EYE
		EYES	111	P LEFT EYE SMALL IN SIZE
		EYES	112	P LEFT EYE SMALL IN SIZE
		BODY	113	1 HAIRLOSS
		EYES	113	P LEFT EYE SMALL IN SIZE
		BODY	114	1 HAIRLOSS
		EYES	114	P LEFT EYE SMALL IN SIZE
		BODY	115	1 HAIRLOSS
		EYES	115	P LEFT EYE SMALL IN SIZE
		BODY	116	1 HAIRLOSS
		EYES	116	P LEFT EYE SMALL IN SIZE
		EYES	117	P LEFT EYE SMALL IN SIZE
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		EYES	118	P LEFT EYE SMALL IN SIZE
		BODY	119	1 HAIRLOSS
		EYES	119	P LEFT EYE SMALL IN SIZE
		BODY	120	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
354-10	F 1.0 MG/KG/DAY	EYES	120	P	LEFT EYE SMALL IN SIZE
		EYES	121	P	LEFT EYE SMALL IN SIZE
		BODY	121	1	HAIRLOSS
		BODY	122	1	HAIRLOSS
		EYES	122	P	LEFT EYE SMALL IN SIZE
		EYES	123	P	LEFT EYE SMALL IN SIZE
		BODY	123	1	HAIRLOSS
		BODY	124	1	HAIRLOSS
		EYES	124	P	LEFT EYE SMALL IN SIZE
		BODY	125	1	HAIRLOSS
		EYES	125	P	LEFT EYE SMALL IN SIZE
		BODY	126	1	HAIRLOSS
		EYES	126	P	LEFT EYE SMALL IN SIZE
		BODY	127	1	HAIRLOSS
		EYES	127	P	LEFT EYE SMALL IN SIZE
		BODY	128	1	HAIRLOSS
		363-11	F 1.0 MG/KG/DAY	EYES	128
BODY	129			1	HAIRLOSS
EYES	129			P	LEFT EYE SMALL IN SIZE
DEAD	129			P	LEFT EYE SMALL IN SIZE
NOSE/MOUTH	43			P	SCHEDULED EUTHANASIA
NOSE/MOUTH	97			P	INCISOR(S) - TRIMMED
NOSE/MOUTH	104			P	DARK MATERIAL AROUND NOSE
DEAD	131			P	DARK MATERIAL AROUND NOSE
NOSE/MOUTH	43			P	SCHEDULED EUTHANASIA
DEAD	132			P	SCHEDULED EUTHANASIA
377-09	F 1.0 MG/KG/DAY	DEAD	43	P	INCISOR(S) - TRIMMED
		NOSE/MOUTH	43	P	SCHEDULED EUTHANASIA
		DEAD	108	P	INCISOR(S) - TRIMMED
397-15	F 1.0 MG/KG/DAY	NOSE/MOUTH	108	P	SCAB(S) - MOUTH AREA
		DEAD	131	P	SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
406-04	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	119	P INCISOR(S) - TRIMMED
409-09	F 1.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
411-10	F 1.0 MG/KG/DAY	DEAD	129	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
411-11	F 1.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
413-09	F 1.0 MG/KG/DAY	DEAD	128	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	42	P REDDISH NASAL DISCHARGE
		NOSE/MOUTH	42	P MALALIGNMENT
		OTHER	42	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		ACTIVITY	42	P GASPING
		NOSE/MOUTH	42	P OPEN LESION - ROOF OF MOUTH
		EYES	43	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	43	P DARK MATERIAL AROUND NOSE
		EYES	50	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	85	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	92	P BROKEN INCISOR(S)
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
419-14	F 1.0 MG/KG/DAY	NOSE/MOUTH	124	P BROKEN INCISOR(S)
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
422-13	F 1.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
423-12	F 1.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	129	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
428-15	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	102	P SCAB(S) - LEFT FORELIMB
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
428-15	F 1.0 MG/KG/DAY	BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
429-12	F 1.0 MG/KG/DAY	BODY	130	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
		DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	43	1 HAIRLOSS
		BODY	50	1 HAIRLOSS
		BODY	57	2 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	78	2 HAIRLOSS
EYES	78	P DARK MATERIAL AROUND EYE(S)		
EYES	78	P OCULAR DISCHARGE - RED		
EYES	85	P OCULAR DISCHARGE - RED		
BODY	85	1 HAIRLOSS		

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



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX AA

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
429-12	F	1.0 MG/KG/DAY	87	2 HAIRLOSS
		BODY	88	2 HAIRLOSS
		EYES	88	P DARK MATERIAL AROUND EYE(S)
		BODY	89	2 HAIRLOSS
		EYES	89	P DARK MATERIAL AROUND EYE(S)
		BODY	90	1 HAIRLOSS
		BODY	91	2 HAIRLOSS
		EYES	91	P DARK MATERIAL AROUND EYE(S)
		BODY	92	2 HAIRLOSS
		EYES	92	P DARK MATERIAL AROUND EYE(S)
		BODY	93	2 HAIRLOSS
		EYES	93	P DARK MATERIAL AROUND EYE(S)
		BODY	94	2 HAIRLOSS
		EYES	94	P DARK MATERIAL AROUND EYE(S)
		BODY	95	2 HAIRLOSS
		EYES	95	P DARK MATERIAL AROUND EYE(S)
		BODY	96	2 HAIRLOSS
		EYES	96	P DARK MATERIAL AROUND EYE(S)
		BODY	97	2 HAIRLOSS
		EYES	97	P DARK MATERIAL AROUND EYE(S)
		BODY	98	2 HAIRLOSS
		EYES	98	P DARK MATERIAL AROUND EYE(S)
		BODY	99	1 HAIRLOSS
		EYES	99	P DARK MATERIAL AROUND EYE(S)
		BODY	100	1 HAIRLOSS
		EYES	100	P DARK MATERIAL AROUND EYE(S)
		BODY	101	2 HAIRLOSS
		EYES	101	P DARK MATERIAL AROUND EYE(S)
		BODY	102	2 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
429-12	F 1.0 MG/KG/DAY	EYES	102	P DARK MATERIAL AROUND EYE(S)
		BODY	103	2 HAIRLOSS
		EYES	103	P DARK MATERIAL AROUND EYE(S)
		BODY	104	1 HAIRLOSS
		EYES	104	P DARK MATERIAL AROUND EYE(S)
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	2 HAIRLOSS
		BODY	108	2 HAIRLOSS
		EYES	108	P DARK MATERIAL AROUND EYE(S)
		BODY	109	2 HAIRLOSS
		BODY	110	2 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	2 HAIRLOSS
		EYES	112	P DARK MATERIAL AROUND EYE(S)
		BODY	113	2 HAIRLOSS
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		BODY	114	2 HAIRLOSS
		BODY	115	2 HAIRLOSS
		EYES	115	P DARK MATERIAL AROUND EYE(S)
		BODY	116	2 HAIRLOSS
		EYES	116	P DARK MATERIAL AROUND EYE(S)
		BODY	117	2 HAIRLOSS
		EYES	117	P DARK MATERIAL AROUND EYE(S)
		BODY	118	2 HAIRLOSS
		EYES	118	P DARK MATERIAL AROUND EYE(S)
		BODY	119	2 HAIRLOSS
		EYES	119	P DARK MATERIAL AROUND EYE(S)
		BODY	120	2 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
429-12	F 1.0 MG/KG/DAY	EYES	120	P DARK MATERIAL AROUND EYE(S)
		BODY	121	2 HAIRLOSS
		EYES	121	P DARK MATERIAL AROUND EYE(S)
		BODY	122	1 HAIRLOSS
		EYES	122	P DARK MATERIAL AROUND EYE(S)
		BODY	123	2 HAIRLOSS
		EYES	123	P DARK MATERIAL AROUND EYE(S)
		BODY	124	2 HAIRLOSS
		BODY	125	2 HAIRLOSS
		BODY	126	2 HAIRLOSS
		BODY	127	2 HAIRLOSS
		BODY	128	2 HAIRLOSS
		BODY	129	2 HAIRLOSS
		BODY	130	2 HAIRLOSS
		BODY	130	P SWOLLEN MAMMARIES - ABDOMINAL REGION
		BODY	131	2 HAIRLOSS
		BODY	131	P SWOLLEN MAMMARIES - ABDOMINAL REGION
		BODY	132	2 HAIRLOSS
		BODY	132	P SWOLLEN MAMMARIES - ABDOMINAL REGION
		DEAD	132	P SCHEDULED EUTHANASIA
429-14	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	130	P SCHEDULED EUTHANASIA
430-17	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	108	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
431-11	F 1.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
431-11	F	1.0 MG/KG/DAY	91	1 HAI RLOSS
			92	1 HAI RLOSS
			93	1 HAI RLOSS
			94	1 HAI RLOSS
			95	1 HAI RLOSS
			96	1 HAI RLOSS
			97	1 HAI RLOSS
			98	1 HAI RLOSS
			99	1 HAI RLOSS
			100	1 HAI RLOSS
			101	1 HAI RLOSS
			102	1 HAI RLOSS
			103	1 HAI RLOSS
			104	1 HAI RLOSS
			105	1 HAI RLOSS
			106	1 HAI RLOSS
			107	1 HAI RLOSS
			108	1 HAI RLOSS
			109	1 HAI RLOSS
			110	1 HAI RLOSS
			111	1 HAI RLOSS
			112	1 HAI RLOSS
			113	1 HAI RLOSS
			114	1 HAI RLOSS
			115	1 HAI RLOSS
			116	1 HAI RLOSS
			117	1 HAI RLOSS
			118	1 HAI RLOSS
			119	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
431-11	F 1.0 MG/KG/DAY	BODY	120	1	HAI RLOSS
		BODY	121	1	HAI RLOSS
		BODY	122	1	HAI RLOSS
		BODY	123	1	HAI RLOSS
		BODY	124	1	HAI RLOSS
		BODY	125	1	HAI RLOSS
		BODY	126	1	HAI RLOSS
		BODY	127	1	HAI RLOSS
		BODY	128	1	HAI RLOSS
		BODY	129	1	HAI RLOSS
		BODY	130	1	HAI RLOSS
		BODY	130	1	HAI RLOSS
440-15	F 1.0 MG/KG/DAY	DEAD	43	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
447-17	F 1.0 MG/KG/DAY	DEAD	43	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	113	1	HAI RLOSS
		BODY	114	1	HAI RLOSS
		BODY	115	1	HAI RLOSS
		BODY	117	1	HAI RLOSS
		BODY	118	1	HAI RLOSS
		BODY	119	1	HAI RLOSS
		BODY	120	1	HAI RLOSS
		BODY	121	1	HAI RLOSS
		BODY	127	1	HAI RLOSS
		BODY	128	1	HAI RLOSS
		BODY	129	1	HAI RLOSS
		BODY	130	1	HAI RLOSS
		BODY	131	1	HAI RLOSS
		BODY	132	1	HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
447-17	F 1.0 MG/KG/DAY	BODY	133	1 HAI RLOSS
		BODY	134	1 HAI RLOSS
		BODY	135	1 HAI RLOSS
		BODY	136	1 HAI RLOSS
		BODY	137	1 HAI RLOSS
		BODY	138	1 HAI RLOSS
629-17	F 1.0 MG/KG/DAY	DEAD	140	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	132	P SCHEDULED EUTHANASIA
304-11	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
307-13	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	89	P RED AND SWOLLEN PINNA(E)
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	94	P RED AND SWOLLEN PINNA(E)
		NOSE/MOUTH	94	P DARK MATERIAL AROUND NOSE
		BODY	95	P RED AND SWOLLEN PINNA(E)
		BODY	96	P RED AND SWOLLEN PINNA(E)
		BODY	97	P RED AND SWOLLEN PINNA(E)
		BODY	98	P RED AND SWOLLEN PINNA(E)
		BODY	99	P RED AND SWOLLEN PINNA(E)
		BODY	100	1 HAI RLOSS
		BODY	108	P RED AND SWOLLEN PINNA(E)
		BODY	109	P RED AND SWOLLEN PINNA(E)
		BODY	110	P RED AND SWOLLEN PINNA(E)
		DEAD	130	P SCHEDULED EUTHANASIA
332-05	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
338-10	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
338-10	F 2.5 MG/KG/DAY	DEAD	132	P SCHEDULED EUTHANASIA
340-10	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	P RED AND SWOLLEN PINNA (E)
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	100	P RED AND SWOLLEN PINNA (E)
		BODY	101	1 HAIRLOSS
		BODY	101	P RED AND SWOLLEN PINNA (E)
		BODY	102	1 HAIRLOSS
		BODY	102	P RED AND SWOLLEN PINNA (E)
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		EYES	107	P DARK MATERIAL AROUND EYE(S)
		BODY	108	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
340-10	F 2.5 MC/KG/DAY	EYES	108	P DARK MATERIAL AROUND EYE(S)
		BODY	109	1 HAIRLOSS
		EYES	109	P DARK MATERIAL AROUND EYE(S)
		BODY	110	1 HAIRLOSS
		EYES	110	P DARK MATERIAL AROUND EYE(S)
		BODY	111	1 HAIRLOSS
		EYES	111	P DARK MATERIAL AROUND EYE(S)
		BODY	112	1 HAIRLOSS
		EYES	112	P DARK MATERIAL AROUND EYE(S)
		BODY	113	1 HAIRLOSS
		EYES	113	P DARK MATERIAL AROUND EYE(S)
		BODY	114	1 HAIRLOSS
		EYES	114	P DARK MATERIAL AROUND EYE(S)
		BODY	115	1 HAIRLOSS
		EYES	115	P DARK MATERIAL AROUND EYE(S)
		BODY	116	1 HAIRLOSS
		EYES	116	P DARK MATERIAL AROUND EYE(S)
		BODY	117	1 HAIRLOSS
		EYES	117	P DARK MATERIAL AROUND EYE(S)
		BODY	118	1 HAIRLOSS
		EYES	118	P DARK MATERIAL AROUND EYE(S)
		BODY	119	1 HAIRLOSS
		EYES	119	P DARK MATERIAL AROUND EYE(S)
		BODY	120	1 HAIRLOSS
		EYES	120	P DARK MATERIAL AROUND EYE(S)
		BODY	121	1 HAIRLOSS
		EYES	121	P DARK MATERIAL AROUND EYE(S)
		BODY	122	1 HAIRLOSS
		EYES	122	P DARK MATERIAL AROUND EYE(S)

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
340-10	F 2.5 MG/KG/DAY	BODY	123	1	HAIRLOSS
		EYES	123	P	DARK MATERIAL AROUND EYE(S)
		BODY	124	1	HAIRLOSS
		EYES	124	P	DARK MATERIAL AROUND EYE(S)
		BODY	125	1	HAIRLOSS
		EYES	125	P	DARK MATERIAL AROUND EYE(S)
		BODY	126	1	HAIRLOSS
		EYES	126	P	DARK MATERIAL AROUND EYE(S)
		EYES	127	P	LEFT EYELID PARTIALLY CLOSED
		EYES	127	P	DARK MATERIAL AROUND EYE(S)
		BODY	127	1	HAIRLOSS
		BODY	128	1	HAIRLOSS
		BODY	129	1	HAIRLOSS
		BODY	130	1	HAIRLOSS
342-05	F 2.5 MG/KG/DAY	EYES	130	P	DARK MATERIAL AROUND EYE(S)
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		NOSE/MOUTH	111	P	DARK MATERIAL AROUND NOSE
343-09	F 2.5 MG/KG/DAY	DEAD	132	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
351-11	F 2.5 MG/KG/DAY	DEAD	111	P	SCHEDULED EUTHANASIA - GESTATION DAY 25
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	78	P	RED AND SWOLLEN PINNA(E)
		BODY	88	P	RED AND SWOLLEN PINNA(E)
		BODY	89	P	RED AND SWOLLEN PINNA(E)
		BODY	91	P	RED AND SWOLLEN PINNA(E)
		BODY	92	P	RED AND SWOLLEN PINNA(E)
		BODY	93	P	RED AND SWOLLEN PINNA(E)
		BODY	94	P	RED AND SWOLLEN PINNA(E)

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
351-11	F	2.5 MG/KG/DAY	95	P RED AND SWOLLEN PINNA(E)
			96	P RED AND SWOLLEN PINNA(E)
			97	P RED AND SWOLLEN PINNA(E)
			98	P RED AND SWOLLEN PINNA(E)
			99	P RED AND SWOLLEN PINNA(E)
			100	P RED AND SWOLLEN PINNA(E)
			101	P RED AND SWOLLEN PINNA(E)
			102	P RED AND SWOLLEN PINNA(E)
			107	P RED AND SWOLLEN PINNA(E)
			108	P RED AND SWOLLEN PINNA(E)
			109	P RED AND SWOLLEN PINNA(E)
			110	P RED AND SWOLLEN PINNA(E)
			111	P RED AND SWOLLEN PINNA(E)
			112	P RED AND SWOLLEN PINNA(E)
			113	P RED AND SWOLLEN PINNA(E)
			114	P RED AND SWOLLEN PINNA(E)
			115	P RED AND SWOLLEN PINNA(E)
			116	P RED AND SWOLLEN PINNA(E)
			117	P RED AND SWOLLEN PINNA(E)
			118	P RED AND SWOLLEN PINNA(E)
			119	P RED AND SWOLLEN PINNA(E)
			120	P RED AND SWOLLEN PINNA(E)
			121	P RED AND SWOLLEN PINNA(E)
			122	P RED AND SWOLLEN PINNA(E)
			123	P RED AND SWOLLEN PINNA(E)
			124	P RED AND SWOLLEN PINNA(E)
			125	P RED AND SWOLLEN PINNA(E)
			126	P RED AND SWOLLEN PINNA(E)
			127	P RED AND SWOLLEN PINNA(E)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
351-11	F 2.5 MG/KG/DAY	BODY	128	P RED AND SWOLLEN PINNA(E)
		BODY	129	P RED AND SWOLLEN PINNA(E)
		BODY	130	P RED AND SWOLLEN PINNA(E)
		DEAD	130	P SCHEDULED EUTHANASIA
351-12	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	102	P RED AND SWOLLEN PINNA (E)
		BODY	103	1 HAIRLOSS
		BODY	103	P RED AND SWOLLEN PINNA (E)
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		NOSE/MOUTH	107	P BROKEN INCISOR(S)
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
351-12	F 2.5 MG/KG/DAY	BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
356-14	F 2.5 MG/KG/DAY	DEAD	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
BODY	101	1 HAI RLOSS		
BODY	102	1 HAI RLOSS		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
356-14	F 2.5 MG/KG/DAY	BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		DEAD	109	P SCHEDULED EUTHANASIA - TOTAL LITTER LOSS
357-10	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	112	P SCHEDULED EUTHANASIA - GESTATION DAY 25
359-13	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
367-08	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	43	P SCAB(S) - MOUTH AREA
		DEAD	130	P SCHEDULED EUTHANASIA
367-10	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
367-10	F 2.5 MG/KG/DAY	BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		368-10	F 2.5 MG/KG/DAY	DEAD
NOSE/MOUTH	43			P INCISOR(S) - TRIMMED
BODY	50			1 HAIRLOSS
BODY	57			1 HAIRLOSS
BODY	71			1 HAIRLOSS
BODY	78			1 HAIRLOSS
BODY	85			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	88			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	88			1 HAIRLOSS
BODY	89			1 HAIRLOSS
BODY	89			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	90			1 HAIRLOSS
BODY	91			1 HAIRLOSS
BODY	91			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	92			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	93			1 HAIRLOSS
BODY	93			P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
BODY	94	1 HAIRLOSS		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
368-10	F 2.5 MG/KG/DAY	BODY	94	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	95	1 HAI RLOSS
		BODY	95	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	96	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	97	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	98	1 HAI RLOSS
		BODY	98	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	99	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	100	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	101	1 HAI RLOSS
		BODY	101	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	102	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	103	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	104	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	111	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
368-10	F 2.5 MG/KG/DAY	BODY	112	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	113	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	114	1 HAIRLOSS
		BODY	114	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	115	1 HAIRLOSS
		BODY	115	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 1.0CM)
		BODY	116	1 HAIRLOSS
		BODY	116	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 0.5CM)
		BODY	117	P RAISED AREA - VENTRAL THORACIC(1.5CM X 1.5CM X 0.5CM)
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
372-09	F 2.5 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
373-08	F 2.5 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
373-08	F 2.5 MG/KG/DAY	BODY	78	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	86	P SCAB(S) - LEFT FORELIMB
		BODY	87	P SCAB(S) - LEFT FORELIMB
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
373-08	F 2.5 MG/KG/DAY	BODY	113	1	HAI RLOSS
		BODY	114	1	HAI RLOSS
		BODY	115	1	HAI RLOSS
		BODY	116	1	HAI RLOSS
		BODY	117	1	HAI RLOSS
		BODY	118	1	HAI RLOSS
		BODY	119	1	HAI RLOSS
		BODY	120	1	HAI RLOSS
		BODY	121	1	HAI RLOSS
		BODY	122	1	HAI RLOSS
		BODY	123	1	HAI RLOSS
		BODY	124	1	HAI RLOSS
		BODY	125	1	HAI RLOSS
		BODY	126	1	HAI RLOSS
382-08	F 2.5 MG/KG/DAY	BODY	128	1	HAI RLOSS
		BODY	129	1	HAI RLOSS
		DEAD	129	1	HAI RLOSS
		NOSE/MOUTH	43	P	SCHEDULED EUTHANASIA
		DEAD	43	P	INCISOR(S) - TRIMMED
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
		BODY	130	1	HAI RLOSS
		DEAD	130	P	SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED
385-07	F 2.5 MG/KG/DAY	DEAD	132	P	SCHEDULED EUTHANASIA
		DEAD	132	P	INCISOR(S) - TRIMMED
404-07	F 2.5 MG/KG/DAY	DEAD	128	P	SCHEDULED EUTHANASIA
		DEAD	128	P	INCISOR(S) - TRIMMED
418-12	F 2.5 MG/KG/DAY	BODY	36	1	HAI RLOSS
		BODY	43	1	HAI RLOSS
		NOSE/MOUTH	43	P	INCISOR(S) - TRIMMED

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX AA

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
418-12	F	2.5 MG/KG/DAY	50	1 HAI RLOSS
			57	1 HAI RLOSS
			64	1 HAI RLOSS
			71	1 HAI RLOSS
			78	1 HAI RLOSS
			85	1 HAI RLOSS
			88	1 HAI RLOSS
			89	1 HAI RLOSS
			90	1 HAI RLOSS
			91	1 HAI RLOSS
			92	1 HAI RLOSS
			93	1 HAI RLOSS
			94	1 HAI RLOSS
			95	1 HAI RLOSS
			96	1 HAI RLOSS
			97	1 HAI RLOSS
			98	1 HAI RLOSS
			99	1 HAI RLOSS
			100	1 HAI RLOSS
			101	1 HAI RLOSS
			102	1 HAI RLOSS
			103	1 HAI RLOSS
			104	1 HAI RLOSS
			105	1 HAI RLOSS
			106	1 HAI RLOSS
			107	1 HAI RLOSS
			108	1 HAI RLOSS
			109	1 HAI RLOSS
			110	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
418-12	F 2.5 MG/KG/DAY	BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
421-12	F 2.5 MG/KG/DAY	BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		BODY	130	1 HAIRLOSS
		BODY	131	1 HAIRLOSS
		DEAD	131	1 SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		DEAD	131	P SCHEDULED EUTHANASIA
432-12	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
432-12	F	2.5 MG/KG/DAY	78	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
432-12	F 2.5 MG/KG/DAY	BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		BODY	131	1 HAI RLOSS
		BODY	131	1 HAI RLOSS
439-11	F 2.5 MG/KG/DAY	NOSE/MOUTH	43	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	50	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	50	P MALALIGNMENT
		NOSE/MOUTH	50	P OPEN LESION - ROOF OF MOUTH
		NOSE/MOUTH	50	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	57	P MALALIGNMENT
		NOSE/MOUTH	57	P BROKEN INCISOR(S)
		NOSE/MOUTH	64	P BROKEN INCISOR(S)
		NOSE/MOUTH	70	P INCISOR(S) - TRIMMED
		BODY	78	1 HAI RLOSS
		NOSE/MOUTH	78	P MALALIGNMENT
		BODY	85	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
NOSE/MOUTH	88	P MALALIGNMENT		
BODY	89	1 HAI RLOSS		
NOSE/MOUTH	89	P MALALIGNMENT		
NOSE/MOUTH	89	P INCISOR(S) - TRIMMED		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
439-11	F 2.5 MG/KG/DAY	BODY	90	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		OTHER	92	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		NOSE/MOUTH	94	P MALALIGNMENT
		BODY	95	1 HAIRLOSS
		NOSE/MOUTH	95	P MALALIGNMENT
		BODY	96	1 HAIRLOSS
		NOSE/MOUTH	96	P MALALIGNMENT
		BODY	97	1 HAIRLOSS
		NOSE/MOUTH	97	P MALALIGNMENT
		NOSE/MOUTH	97	P INCISOR(S) - TRIMMED
		BODY	98	1 HAIRLOSS
		NOSE/MOUTH	98	P MALALIGNMENT
		BODY	99	1 HAIRLOSS
		NOSE/MOUTH	99	P MALALIGNMENT
		BODY	100	1 HAIRLOSS
		NOSE/MOUTH	100	P MALALIGNMENT
		BODY	101	1 HAIRLOSS
		NOSE/MOUTH	101	P MALALIGNMENT
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		NOSE/MOUTH	103	P MALALIGNMENT
		BODY	104	1 HAIRLOSS
		NOSE/MOUTH	104	P MALALIGNMENT
		BODY	105	1 HAIRLOSS
		NOSE/MOUTH	105	P MALALIGNMENT
		NOSE/MOUTH	106	P MALALIGNMENT

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
439-11	F 2.5 MG/KG/DAY	BODY	107	1 HAIRLOSS
		NOSE/MOUTH	107	P MALALIGNMENT
		BODY	108	1 HAIRLOSS
		NOSE/MOUTH	108	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	108	P MISSING INCISOR(S)
		BODY	109	1 HAIRLOSS
		NOSE/MOUTH	109	P MALALIGNMENT
		NOSE/MOUTH	109	P BROKEN INCISOR(S)
		BODY	110	1 HAIRLOSS
		NOSE/MOUTH	110	P BROKEN INCISOR(S)
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		NOSE/MOUTH	112	P MALALIGNMENT
		BODY	113	1 HAIRLOSS
		NOSE/MOUTH	113	P MALALIGNMENT
		BODY	114	1 HAIRLOSS
		NOSE/MOUTH	114	P MALALIGNMENT
		BODY	115	1 HAIRLOSS
		NOSE/MOUTH	115	P MALALIGNMENT
		EYES	116	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	116	P MISSING INCISOR(S)
		EYES	117	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	117	P BROKEN INCISOR(S)
		EYES	118	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	118	P BROKEN INCISOR(S)
		EYES	119	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	119	P BROKEN INCISOR(S)
		EYES	120	P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	120	P BROKEN INCISOR(S)

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
439-11	F 2.5 MG/KG/DAY	EYES	121		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	121		P BROKEN INCISOR(S)
		EYES	122		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	122		P BROKEN INCISOR(S)
		EYES	123		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	123		P BROKEN INCISOR(S)
		EYES	124		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	124		P BROKEN INCISOR(S)
		EYES	125		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	125		P BROKEN INCISOR(S)
		EYES	126		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	126		P MALALIGNMENT
		EYES	127		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	127		P MALALIGNMENT
444-16	F 2.5 MG/KG/DAY	EYES	128		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	128		P MALALIGNMENT
		EYES	129		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	129		P MALALIGNMENT
		EYES	130		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	130		P MALALIGNMENT
		DEAD	131		P MALALIGNMENT
		NOSE/MOUTH	43		P SCHEDULED EUTHANASIA
		DEAD	129		P INCISOR(S) - TRIMMED
		NOSE/MOUTH	43		P SCHEDULED EUTHANASIA
		DEAD	130		P INCISOR(S) - TRIMMED
		NOSE/MOUTH	43		P SCHEDULED EUTHANASIA
		DEAD	97		P INCISOR(S) - TRIMMED
		NOSE/MOUTH	131		P DARK MATERIAL AROUND NOSE
DEAD	43		P SCHEDULED EUTHANASIA		
NOSE/MOUTH	43		P INCISOR(S) - TRIMMED		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
303-07	F 5.0 MG/KG/DAY	BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		NOSE/MOUTH	107	P MALALIGNMENT
		BODY	108	1 HAI RLOSS
		NOSE/MOUTH	108	P MALALIGNMENT
		BODY	109	1 HAI RLOSS
		NOSE/MOUTH	109	P MALALIGNMENT

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

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX AA  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

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(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
303-07	F 5.0 MG/KG/DAY	BODY	110	1 HAIRLOSS
		NOSE/MOUTH	110	P MALALIGNMENT
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		NOSE/MOUTH	112	P MALALIGNMENT
		BODY	113	1 HAIRLOSS
		NOSE/MOUTH	113	P MALALIGNMENT
		BODY	114	1 HAIRLOSS
		NOSE/MOUTH	114	P MALALIGNMENT
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS
		BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
BODY	126	1 HAIRLOSS		
BODY	127	1 HAIRLOSS		
BODY	128	1 HAIRLOSS		
BODY	129	1 HAIRLOSS		
BODY	130	1 HAIRLOSS		
BODY	131	1 HAIRLOSS		
316-12	F 5.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	114	P SCHEDULED EUTHANASIA - GESTATION DAY 25

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
326-09	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	129		P SCHEDULED EUTHANASIA
328-08	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	130		P SCHEDULED EUTHANASIA
330-01	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	119		P SCAB(S) - LEFT FORELIMB
		BODY	120		P SCAB(S) - LEFT FORELIMB
		BODY	121		P SCAB(S) - LEFT FORELIMB
		BODY	122		P SCAB(S) - LEFT FORELIMB
		BODY	123		P SCAB(S) - LEFT FORELIMB
		BODY	124		P SCAB(S) - LEFT FORELIMB
		DEAD	132		P SCHEDULED EUTHANASIA
344-09	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		1 HAIRLOSS
		BODY	90		1 HAIRLOSS
		BODY	91		1 HAIRLOSS
		DEAD	129		P SCHEDULED EUTHANASIA
346-15	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	129		P SCHEDULED EUTHANASIA
347-12	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	124		P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
350-11	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	71		1 HAIRLOSS
		BODY	78		1 HAIRLOSS
		BODY	86		1 HAIRLOSS
		BODY	87		1 HAIRLOSS
		BODY	88		1 HAIRLOSS
		BODY	89		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
350-11	F	5.0 MG/KG/DAY	90	1 HAI RLOSS
			91	1 HAI RLOSS
			92	1 HAI RLOSS
			93	1 HAI RLOSS
			94	1 HAI RLOSS
			95	1 HAI RLOSS
			96	1 HAI RLOSS
			97	1 HAI RLOSS
			98	1 HAI RLOSS
			99	1 HAI RLOSS
			100	1 HAI RLOSS
			101	1 HAI RLOSS
			102	1 HAI RLOSS
			103	1 HAI RLOSS
			104	1 HAI RLOSS
			105	1 HAI RLOSS
			106	1 HAI RLOSS
			107	1 HAI RLOSS
			108	1 HAI RLOSS
			109	1 HAI RLOSS
			110	1 HAI RLOSS
			111	1 HAI RLOSS
			112	1 HAI RLOSS
			113	1 HAI RLOSS
			114	1 HAI RLOSS
			114	P SCAB(S) - LEFT FORELIMB
			114	P SCAB(S) - RIGHT FORELIMB
			115	1 HAI RLOSS
			115	P SCAB(S) - RIGHT FORELIMB

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
350-11	F 5.0 MG/KG/DAY	BODY	115		P SCAB(S) - LEFT FORELIMB
		BODY	116		1 HAIRLOSS
		BODY	117		1 HAIRLOSS
		BODY	118		1 HAIRLOSS
		BODY	119		1 HAIRLOSS
		BODY	120		1 HAIRLOSS
		BODY	121		1 HAIRLOSS
		BODY	122		1 HAIRLOSS
		BODY	123		1 HAIRLOSS
		BODY	124		1 HAIRLOSS
		BODY	125		1 HAIRLOSS
		BODY	126		1 HAIRLOSS
		BODY	127		1 HAIRLOSS
		BODY	128		1 HAIRLOSS
		BODY	129		1 HAIRLOSS
360-08	F 5.0 MG/KG/DAY	DEAD	129		P SCHEDULED EUTHANASIA
361-13	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	137		P SCHEDULED EUTHANASIA
		EYES	8		P DARK MATERIAL AROUND EYE(S)
365-09	F 5.0 MG/KG/DAY	EYES	15		P DARK MATERIAL AROUND EYE(S)
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	130		P SCHEDULED EUTHANASIA
374-09	F 5.0 MG/KG/DAY	EXCRETA/EMESIS	15		P FEW FECES
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	132		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	113		1 HAIRLOSS
		BODY	114		1 HAIRLOSS
		BODY	115		1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
374-09	F 5.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
375-12	F 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
381-11	F 5.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	119	P BROKEN INCISOR(S)
		DEAD	130	P SCHEDULED EUTHANASIA
389-09	F 5.0 MG/KG/DAY	DEAD	10	P FOUND DEAD - ACCIDENTAL INJURY
		OTHER	10	P FOUND CAUGHT IN CAGE SIPPER HOLE
		NOSE/MOUTH	10	P CANNIBALIZED BY CAGE MATE
393-14	F 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	P RED AND SWOLLEN PINNA(E)
		BODY	85	P RED AND SWOLLEN PINNA(E)
		BODY	86	P RED AND SWOLLEN PINNA(E)
		BODY	87	P RED AND SWOLLEN PINNA(E)
		BODY	88	P RED AND SWOLLEN PINNA(E)
		BODY	89	P RED AND SWOLLEN PINNA(E)
		BODY	90	P RED AND SWOLLEN PINNA(E)
		BODY	91	P RED AND SWOLLEN PINNA(E)
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	96	P RED AND SWOLLEN PINNA(E)
		BODY	103	P RED AND SWOLLEN PINNA(E)
		BODY	104	P RED AND SWOLLEN PINNA(E)
		BODY	105	P RED AND SWOLLEN PINNA(E)
		BODY	119	P RED AND SWOLLEN PINNA(E)
		DEAD	129	P SCHEDULED EUTHANASIA
398-10	F 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	108	P SCAB(S) - MOUTH AREA
		DEAD	132	P SCHEDULED EUTHANASIA
402-10	F 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
402-10	F 5.0 MG/KG/DAY	BODY	92	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		NOSE/MOUTH	100	P REDDISH NASAL DISCHARGE
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
402-10	F 5.0 MG/KG/DAY	BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		BODY	131	1 HAI RLOSS
		BODY	132	1 HAI RLOSS
		410-12	F 5.0 MG/KG/DAY	DEAD
NOSE/MOUTH	43			P INCISOR(S) - TRIMMED
BODY	78			1 HAI RLOSS
BODY	85			1 HAI RLOSS
BODY	86			1 HAI RLOSS
BODY	87			1 HAI RLOSS
BODY	88			1 HAI RLOSS
BODY	88			P SCAB(S) - LEFT FORELIMB
BODY	89			1 HAI RLOSS
BODY	90			1 HAI RLOSS
BODY	91			1 HAI RLOSS
BODY	92			1 HAI RLOSS
BODY	93			1 HAI RLOSS
BODY	94	1 HAI RLOSS		
BODY	95	1 HAI RLOSS		
BODY	96	1 HAI RLOSS		
BODY	97	1 HAI RLOSS		

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
410-12	F 5.0 MG/KG/DAY	BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
414-09	F 5.0 MG/KG/DAY	BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		DEAD	111	1 HAIRLOSS
		NOSE/MOUTH	43	P SCHEDULED EUTHANASIA - GESTATION DAY 25
		BODY	43	P INCISOR(S) - TRIMMED
		BODY	50	P SCAB(S) - LEFT FORELIMB
		BODY	57	P SCAB(S) - LEFT FORELIMB
		BODY	71	1 HAIRLOSS
		BODY	78	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
416-08	F 5.0 MG/KG/DAY	BODY	113	1 HAIRLOSS
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	86	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
416-08	F 5.0 MG/KG/DAY	BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	1 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	99	P SCAB(S) - LEFT FORELIMB
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
416-08	F 5.0 MG/KG/DAY	BODY	116		1 HAIRLOSS
		BODY	117		1 HAIRLOSS
		BODY	118		1 HAIRLOSS
		BODY	119		1 HAIRLOSS
		BODY	120		1 HAIRLOSS
		BODY	121		1 HAIRLOSS
		BODY	122		1 HAIRLOSS
		BODY	123		1 HAIRLOSS
		BODY	124		1 HAIRLOSS
		BODY	125		1 HAIRLOSS
		BODY	126		1 HAIRLOSS
		BODY	127		1 HAIRLOSS
		BODY	128		1 HAIRLOSS
		BODY	129		1 HAIRLOSS
		BODY	129		1 HAIRLOSS
		DEAD	43		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		1 HAIRLOSS
		416-09	F 5.0 MG/KG/DAY	DEAD	142
NOSE/MOUTH	43				P INCISOR(S) - TRIMMED
DEAD	130				P SCHEDULED EUTHANASIA
NOSE/MOUTH	43				P INCISOR(S) - TRIMMED
BODY	78				P SCAB(S) - DORSAL NECK
417-13	F 5.0 MG/KG/DAY	BODY	91		P SCAB(S) - DORSAL NECK
		BODY	92		P SCAB(S) - DORSAL NECK
		BODY	93		P SCAB(S) - DORSAL NECK
		BODY	94		P SCAB(S) - DORSAL NECK
		BODY	111		1 HAIRLOSS
		DEAD	129		P SCHEDULED EUTHANASIA
436-08	F 5.0 MG/KG/DAY	NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		P SCAB(S) - DORSAL NECK
436-12	F 5.0 MG/KG/DAY	BODY	91		P SCAB(S) - DORSAL NECK
		BODY	92		P SCAB(S) - DORSAL NECK
		BODY	93		P SCAB(S) - DORSAL NECK
		BODY	94		P SCAB(S) - DORSAL NECK
		BODY	111		1 HAIRLOSS
		DEAD	129		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		P SCAB(S) - DORSAL NECK
		BODY	91		P SCAB(S) - DORSAL NECK
		BODY	92		P SCAB(S) - DORSAL NECK
		BODY	93		P SCAB(S) - DORSAL NECK
		BODY	94		P SCAB(S) - DORSAL NECK
		BODY	111		1 HAIRLOSS
		DEAD	129		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	78		P SCAB(S) - DORSAL NECK

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
436-12	F 5.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
443-12	F 5.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
451-16	F 5.0 MG/KG/DAY	DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
308-14	F 10.0 MG/KG/DAY	DEAD	132	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	88	P RED AND SWOLLEN PINNA(E)
		BODY	89	P RED AND SWOLLEN PINNA(E)
		BODY	91	P RED AND SWOLLEN PINNA(E)
		BODY	92	P RED AND SWOLLEN PINNA(E)
		BODY	93	P RED AND SWOLLEN PINNA(E)
		BODY	94	P RED AND SWOLLEN PINNA(E)
		BODY	95	P RED AND SWOLLEN PINNA(E)
		BODY	96	P RED AND SWOLLEN PINNA(E)
		BODY	97	P RED AND SWOLLEN PINNA(E)
		BODY	98	1 HAIRLOSS
		NOSE/MOUTH	98	P RED AND SWOLLEN PINNA(E)
		BODY	99	P DARK MATERIAL AROUND NOSE
		BODY	100	P RED AND SWOLLEN PINNA(E)
		BODY	101	P RED AND SWOLLEN PINNA(E)
		BODY	102	P RED AND SWOLLEN PINNA(E)
		BODY	103	P RED AND SWOLLEN PINNA(E)
		BODY	104	P RED AND SWOLLEN PINNA(E)
		BODY	105	P RED AND SWOLLEN PINNA(E)
		BODY	107	P RED AND SWOLLEN PINNA(E)
		BODY	108	P RED AND SWOLLEN PINNA(E)
		BODY	110	P RED AND SWOLLEN PINNA(E)
		BODY	111	P RED AND SWOLLEN PINNA(E)
		BODY	112	P RED AND SWOLLEN PINNA(E)

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY		GRADE OBSERVATIONS
			DAY	DAY	
308-14	F 10.0 MG/KG/DAY	BODY	113		P RED AND SWOLLEN PINNA(E)
		BODY	114		P RED AND SWOLLEN PINNA(E)
		BODY	115		P RED AND SWOLLEN PINNA(E)
		BODY	116		P RED AND SWOLLEN PINNA(E)
		BODY	117		P RED AND SWOLLEN PINNA(E)
		BODY	118		P RED AND SWOLLEN PINNA(E)
		BODY	119		P RED AND SWOLLEN PINNA(E)
		BODY	120		P RED AND SWOLLEN PINNA(E)
		BODY	121		P RED AND SWOLLEN PINNA(E)
		BODY	122		P RED AND SWOLLEN PINNA(E)
		BODY	123		P RED AND SWOLLEN PINNA(E)
		BODY	124		P RED AND SWOLLEN PINNA(E)
		BODY	125		P RED AND SWOLLEN PINNA(E)
		BODY	126		P RED AND SWOLLEN PINNA(E)
318-04	F 10.0 MG/KG/DAY	BODY	127		P RED AND SWOLLEN PINNA(E)
		BODY	128		P RED AND SWOLLEN PINNA(E)
		BODY	129		P RED AND SWOLLEN PINNA(E)
		DEAD	129		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	131		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		DEAD	130		P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43		P INCISOR(S) - TRIMMED
		BODY	57		1 HAI RLOSS
318-10	F 10.0 MG/KG/DAY	BODY	64		1 HAI RLOSS
		BODY	71		1 HAI RLOSS
		BODY	78		1 HAI RLOSS
		BODY	86		1 HAI RLOSS
		BODY	87		1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
319-10	F	10.0 MG/KG/DAY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		NOSE/MOUTH	101	P DARK MATERIAL AROUND NOSE
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	107	2 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
		BODY	116	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
319-10	F 10.0 MG/KG/DAY	BODY	117	1 HAIRLOSS
		BODY	118	1 HAIRLOSS
		BODY	119	1 HAIRLOSS
		BODY	120	1 HAIRLOSS
		BODY	121	1 HAIRLOSS
		BODY	122	1 HAIRLOSS
		BODY	123	1 HAIRLOSS
		BODY	124	1 HAIRLOSS
		BODY	125	1 HAIRLOSS
		BODY	126	1 HAIRLOSS
		BODY	127	1 HAIRLOSS
		BODY	128	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		327-04	F 10.0 MG/KG/DAY	DEAD
NOSE/MOUTH	43			P SCHEDULED EUTHANASIA
BODY	88			P INCISOR(S) - TRIMMED
BODY	89			P RED AND SWOLLEN PINNA(E)
BODY	91			P RED AND SWOLLEN PINNA(E)
BODY	92			P RED AND SWOLLEN PINNA(E)
BODY	93			P RED AND SWOLLEN PINNA(E)
BODY	94			P RED AND SWOLLEN PINNA(E)
BODY	95			P RED AND SWOLLEN PINNA(E)
BODY	96			P RED AND SWOLLEN PINNA(E)
BODY	97			P RED AND SWOLLEN PINNA(E)
BODY	98			P RED AND SWOLLEN PINNA(E)
BODY	99			P RED AND SWOLLEN PINNA(E)
BODY	100			P RED AND SWOLLEN PINNA(E)
BODY	102	P RED AND SWOLLEN PINNA(E)		
BODY	103	P RED AND SWOLLEN PINNA(E)		

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



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL SURVIVAL AND CLINICAL OBSERVATIONS

APPENDIX AA

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
327-04	F	10.0 MG/KG/DAY	104	P RED AND SWOLLEN PINNA(E)
		BODY	105	P RED AND SWOLLEN PINNA(E)
		BODY	106	P RED AND SWOLLEN PINNA(E)
		BODY	107	P RED AND SWOLLEN PINNA(E)
		BODY	108	P RED AND SWOLLEN PINNA(E)
		BODY	109	P RED AND SWOLLEN PINNA(E)
		BODY	110	P RED AND SWOLLEN PINNA(E)
		BODY	111	P RED AND SWOLLEN PINNA(E)
		BODY	112	P RED AND SWOLLEN PINNA(E)
		BODY	113	P RED AND SWOLLEN PINNA(E)
		BODY	114	P RED AND SWOLLEN PINNA(E)
		BODY	115	P RED AND SWOLLEN PINNA(E)
		BODY	116	P RED AND SWOLLEN PINNA(E)
		BODY	117	P RED AND SWOLLEN PINNA(E)
		BODY	118	P RED AND SWOLLEN PINNA(E)
		BODY	119	P RED AND SWOLLEN PINNA(E)
		BODY	120	P RED AND SWOLLEN PINNA(E)
		BODY	121	P RED AND SWOLLEN PINNA(E)
		BODY	122	P RED AND SWOLLEN PINNA(E)
		BODY	123	P RED AND SWOLLEN PINNA(E)
		BODY	124	P RED AND SWOLLEN PINNA(E)
		BODY	125	P RED AND SWOLLEN PINNA(E)
		BODY	126	P RED AND SWOLLEN PINNA(E)
		BODY	127	P RED AND SWOLLEN PINNA(E)
		BODY	128	P RED AND SWOLLEN PINNA(E)
		BODY	129	P RED AND SWOLLEN PINNA(E)
		BODY	130	P RED AND SWOLLEN PINNA(E)
		BODY	131	P RED AND SWOLLEN PINNA(E)
		DEAD	131	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
331-08	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
333-06	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	89	P BROKEN INCISOR(S)
		NOSE/MOUTH	91	P BROKEN INCISOR(S)
		NOSE/MOUTH	92	P BROKEN INCISOR(S)
		NOSE/MOUTH	93	P BROKEN INCISOR(S)
		NOSE/MOUTH	94	P BROKEN INCISOR(S)
		NOSE/MOUTH	94	P MALALIGNMENT
		NOSE/MOUTH	94	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	95	P MALALIGNMENT
		NOSE/MOUTH	96	P MALALIGNMENT
		NOSE/MOUTH	97	P MALALIGNMENT
		NOSE/MOUTH	98	P MALALIGNMENT
		NOSE/MOUTH	99	P MALALIGNMENT
		NOSE/MOUTH	102	P MALALIGNMENT
		NOSE/MOUTH	115	P MALALIGNMENT
		NOSE/MOUTH	116	P MALALIGNMENT
		NOSE/MOUTH	117	P MALALIGNMENT
		NOSE/MOUTH	118	P BROKEN INCISOR(S)
		NOSE/MOUTH	118	P BROKEN INCISOR(S)
		DEAD	130	P SCHEDULED EUTHANASIA
336-08	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	57	1 HAIRLOSS
		BODY	64	1 HAIRLOSS
		BODY	71	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	129	1 HAIRLOSS
		DEAD	130	P SCHEDULED EUTHANASIA
337-07	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
337-07	F	10.0 MG/KG/DAY	57	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS
		BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	113	P SCAB(S) - LEFT FORELIMB
		BODY	114	1 HAI RLOSS
		BODY	114	P SCAB(S) - LEFT FORELIMB
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	P SCAB(S) - LEFT FORELIMB

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
337-07	F 10.0 MG/KG/DAY	BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		BODY	131	1 HAI RLOSS
		BODY	132	1 HAI RLOSS
		DEAD	132	P SCHEDULED EUTHANASIA
352-12	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	124	P SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25
358-09	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	92	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		DEAD	130	P SCHEDULED EUTHANASIA
362-04	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
362-04	F 10.0 MG/KG/DAY	NOSE/MOUTH	94	P DARK MATERIAL AROUND NOSE
		DEAD	112	P SCHEDULED EUTHANASIA - GESTATION DAY 25
364-13	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	132	P SCHEDULED EUTHANASIA
378-10	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	57	P BROKEN INCISOR(S)
		DEAD	131	P SCHEDULED EUTHANASIA
394-11	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	59	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		OTHER	92	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
		DEAD	129	P SCHEDULED EUTHANASIA
395-15	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
395-15	F 10.0 MG/KG/DAY	BODY	109	1 HAIRLOSS
		DEAD	130	P SCHEDULED EUTHANASIA
396-16	F 10.0 MG/KG/DAY	BODY	22	P TAIL TIP ABSENT
		BODY	29	P TAIL TIP ABSENT
		BODY	36	P TAIL TIP ABSENT
		BODY	43	P TAIL TIP ABSENT
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	P TAIL TIP ABSENT
		BODY	57	P TAIL TIP ABSENT
		BODY	93	P RED AND SWOLLEN PINNA (E)
		BODY	104	1 HAIRLOSS
		BODY	105	1 HAIRLOSS
		BODY	106	1 HAIRLOSS
		BODY	107	1 HAIRLOSS
		BODY	108	1 HAIRLOSS
		BODY	109	1 HAIRLOSS
		BODY	110	1 HAIRLOSS
		BODY	111	1 HAIRLOSS
		BODY	112	1 HAIRLOSS
		DEAD	132	P SCHEDULED EUTHANASIA
399-12	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
399-12	F 10.0 MG/KG/DAY	BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS
		BODY	103	1 HAIRLOSS
405-08	F 10.0 MG/KG/DAY	DEAD	112	P SCHEDULED EUTHANASIA - GESTATION DAY 25
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA
415-12	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	100	P DARK MATERIAL AROUND NOSE
		DEAD	112	P SCHEDULED EUTHANASIA - GESTATION DAY 25
434-10	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	78	1 HAIRLOSS
		BODY	85	1 HAIRLOSS
		BODY	87	1 HAIRLOSS
		BODY	88	1 HAIRLOSS
		BODY	89	1 HAIRLOSS
		BODY	90	1 HAIRLOSS
		BODY	91	1 HAIRLOSS
		BODY	92	1 HAIRLOSS
		BODY	93	1 HAIRLOSS
		BODY	94	1 HAIRLOSS
		BODY	95	1 HAIRLOSS
		BODY	96	1 HAIRLOSS
		BODY	97	1 HAIRLOSS
		BODY	98	1 HAIRLOSS
		BODY	99	1 HAIRLOSS
		BODY	100	1 HAIRLOSS
		BODY	101	1 HAIRLOSS
		BODY	102	1 HAIRLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
434-10	F	10.0 MG/KG/DAY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		BODY	130	1 HAI RLOSS
		DEAD	130	P SCHEDULED EUTHANASIA

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



(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
435-13	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		OTHER	46	P UNDETERMINED AMOUNT OF DOSE EXPELLED FROM MOUTH.
437-08	F 10.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		NOSE/MOUTH	108	P BROKEN INCISOR(S)
		NOSE/MOUTH	109	P BROKEN INCISOR(S)
		NOSE/MOUTH	110	P BROKEN INCISOR(S)
		BODY	119	P SCAB(S) - LEFT FORELIMB
		BODY	120	P SCAB(S) - LEFT FORELIMB
		BODY	121	P SCAB(S) - LEFT FORELIMB
438-15	F 10.0 MG/KG/DAY	BODY	122	P SCAB(S) - LEFT FORELIMB
		BODY	123	P SCAB(S) - LEFT FORELIMB
		BODY	124	P SCAB(S) - LEFT FORELIMB
		BODY	125	P SCAB(S) - LEFT FORELIMB
		DEAD	131	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	107	1 HAIRLOSS
441-10	F 10.0 MG/KG/DAY	NOSE/MOUTH	108	P SCAB(S) - MOUTH AREA
		NOSE/MOUTH	109	P SCAB(S) - MOUTH AREA
		BODY	112	1 HAIRLOSS
		BODY	113	1 HAIRLOSS
		BODY	114	1 HAIRLOSS
		BODY	115	1 HAIRLOSS
448-04	F 10.0 MG/KG/DAY	DEAD	130	P SCHEDULED EUTHANASIA
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
448-04	F 10.0 MG/KG/DAY	DEAD	113	P SCHEDULED EUTHANASIA - TOTAL LITTER LOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	131	P SCHEDULED EUTHANASIA

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
434-08	F 10.0 MG/KG/DAY	NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		DEAD	130	P SCHEDULED EUTHANASIA
627-11	F 10.0 MG/KG/DAY	BODY	29	1 HAI RLOSS
		BODY	36	1 HAI RLOSS
		BODY	43	1 HAI RLOSS
		NOSE/MOUTH	43	P INCISOR(S) - TRIMMED
		BODY	50	1 HAI RLOSS
		BODY	57	1 HAI RLOSS
		BODY	64	1 HAI RLOSS
		BODY	71	1 HAI RLOSS
		BODY	78	1 HAI RLOSS
		BODY	85	1 HAI RLOSS
		BODY	86	1 HAI RLOSS
		BODY	87	1 HAI RLOSS
		BODY	88	1 HAI RLOSS
		BODY	89	1 HAI RLOSS
		BODY	90	1 HAI RLOSS
		BODY	91	1 HAI RLOSS
		BODY	92	2 HAI RLOSS
		BODY	93	1 HAI RLOSS
		BODY	94	1 HAI RLOSS
		BODY	95	1 HAI RLOSS
		BODY	96	1 HAI RLOSS
		BODY	97	1 HAI RLOSS
		BODY	98	1 HAI RLOSS
		BODY	99	1 HAI RLOSS
		BODY	100	1 HAI RLOSS
		BODY	101	1 HAI RLOSS

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

(POSITIVE FINDINGS)

ANIMAL NO.	GROUP	CATEGORY	STUDY DAY	GRADE OBSERVATIONS
627-11	F 10.0 MG/KG/DAY	BODY	102	1 HAI RLOSS
		BODY	103	1 HAI RLOSS
		BODY	104	1 HAI RLOSS
		BODY	105	1 HAI RLOSS
		BODY	106	1 HAI RLOSS
		BODY	107	1 HAI RLOSS
		BODY	108	1 HAI RLOSS
		BODY	109	1 HAI RLOSS
		BODY	110	1 HAI RLOSS
		BODY	111	1 HAI RLOSS
		BODY	112	1 HAI RLOSS
		BODY	113	1 HAI RLOSS
		BODY	114	1 HAI RLOSS
		BODY	115	1 HAI RLOSS
		BODY	116	1 HAI RLOSS
		BODY	117	1 HAI RLOSS
		BODY	118	1 HAI RLOSS
		BODY	119	1 HAI RLOSS
		BODY	120	1 HAI RLOSS
		BODY	121	1 HAI RLOSS
		BODY	122	1 HAI RLOSS
		BODY	123	1 HAI RLOSS
		BODY	124	1 HAI RLOSS
		BODY	125	1 HAI RLOSS
		BODY	126	1 HAI RLOSS
		BODY	127	1 HAI RLOSS
		BODY	128	1 HAI RLOSS
		BODY	129	1 HAI RLOSS
		DEAD	129	P SCHEDULED EUTHANASIA

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

**AN ORAL (GAVAGE) TWO-GENERATION  
REPRODUCTION TOXICITY STUDY IN  
SPRAGUE-DAWLEY RATS WITH  
NICKEL SULFATE HEXAHYDRATE**

FINAL REPORT  
Volume 3 of 3

Study Director

Joseph C. Siglin, Ph.D., DABT

Study Completed on

December 22, 2000

Performing Laboratory

Springborn Laboratories, Inc. (SLI)  
Ohio Research Center  
640 North Elizabeth Street  
Spencerville, OH 45887

SLI Study No.

3472.4

Submitted to:

NIPERA, Inc.  
2605 Meridian Parkway  
Suite 200  
Durham, NC 27713

SLI Study No. 3472.4

APPENDIX BB

Individual F1 Parental Body Weight Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
306-01 M	66	90	143	208	269	331	383	429	465	492
306-02 M	60	82	130	189	239	292	337	373	409	439
311-06 M	55	79	123	184	242	301	348	383	418	437
317-04 M	a	51	83	142	203	262	311	356	393	421
321-01 M	51	83	130	195	251	309	347	378	418	444
321-04 M	55	88	144	207	272	326	375	417	450	479
323-05 M	59	77	127	186	239	298	348	387	418	444
323-06 M	64	83	132	191	247	301	346	374	406	417
345-01 M	69	90	150	214	278	344	404	447	482	510
348-04 M	63	103	164	226	288	340	381	418	442	473
353-06 M	59	79	132	197	259	323	364	392	421	445
355-05 M	55	81	120	175	228	282	327	362	390	403
371-01 M	67	92	150	214	270	320	358	397	427	454
380-04 M	54	73	121	184	247	314	358	399	437	458
384-05 M	54	88	147	212	283	348	406	451	490	526
388-03 M	56	88	147	202	258	321	380	426	470	496
390-04 M	52	74	119	178	233	284	323	355	386	404
400-06 M	61	80	128	194	251	306	353	393	425	445
355-02 M	58	82	130	192	250	316	360	387	413	457
403-06 M	52	84	139	200	265	320	361	392	432	468
408-03 M	50	74	116	170	221	274	317	343	368	394
420-02 M	65	84	144	213	278	342	399	440	463	494
425-07 M	52	75	128	190	242	294	332	367	397	422
426-05 M	52	86	134	189	246	302	345	378	399	411
427-02 M	55	74	123	188	256	308	360	397	424	443
449-05 M	60	85	140	208	270	339	400	439	471	500
450-06 M	62	97	163	233	307	384	454	505	549	586
628-04 M	56	98	161	227	286	350	396	442	480	509
MEAN	58	83	135	197	256	315	363	401	434	460
S. D.	5.3	9.8	16.8	19.1	22.6	26.5	32.0	36.4	39.2	43.5
N	27	28	28	28	28	28	28	28	28	28

a BODY WEIGHTS INITIATED ON WEEK 2.



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

3

WEEK	1	2	3	4	5	6	7	8	9	10
310-01 M	51	77	124	178	230	278	306	331	357	381
312-03 M	56	80	130	190	249	310	343	385	420	442
312-06 M	58	80	131	196	257	318	359	394	434	463
313-03 M	53	72	117	179	239	294	347	385	422	448
314-03 M	65	97	166	242	313	374	417	491	520	520
324-02 M	58	85	136	196	259	329	386	424	464	498
325-08 M	55	85	137	198	258	315	362	403	430	458
329-05 M	64	81	130	200	271	340	398	433	474	508
354-05 M	a	73	112	179	243	302	361	441	468	468
363-06 M	59	74	127	194	259	332	396	432	480	526
377-05 M	76	83	145	215	280	349	401	440	475	508
397-02 M	66	90	136	190	236	283	325	358	385	411
397-06 M	62	90	147	215	277	341	389	428	471	507
406-07 M	57	65	128	191	252	321	382	407	445	478
409-03 M	55	74	117	168	216	272	313	348	381	397
411-01 M	57	90	141	196	251	304	344	376	406	429
413-04 M	58	75	127	192	249	309	349	391	415	441
419-10 M	58	79	133	201	265	325	366	398	433	457
422-04 M	56	74	117	171	223	272	313	347	365	387
423-03 M	45	63	95	132	171	205	244	264	281	268
428-03 M	58	91	153	214	283	343	386	419	453	479
428-09 M	60	92	157	217	286	345	392	428	455	491
429-06 M	60	90	141	204	258	313	355	369	392	408
430-06 M	56	80	134	192	239	287	327	359	390	417
431-03 M	52	87	143	201	261	319	373	412	446	473
440-04 M	55	86	138	196	253	311	364	399	429	454
447-02 M	58	94	153	218	278	337	384	413	445	466
629-07 M	57	88	141	198	257	308	348	383	419	446
MEAN	58	82	134	195	254	312	358	392	425	451
S. D.	5.6	8.7	14.9	19.9	26.2	32.4	36.6	38.9	45.0	53.5
N	27	28	28	28	28	28	28	28	28	28

a BODY WEIGHTS INITIATED ON WEEK 2.



APPENDIX BB  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
310-01 M	396	402	415	423	438	442	439	SCHEDULED EUTHANASIA
312-03 M	461	484	505	505	516	512	534	SCHEDULED EUTHANASIA
312-06 M	490	522	547	562	590	607	631	SCHEDULED EUTHANASIA
313-03 M	476	505	524	538	555	578	589	SCHEDULED EUTHANASIA
314-03 M	536	548	574	574	583	596	613	SCHEDULED EUTHANASIA
324-02 M	513	541	560	568	597	620	625	SCHEDULED EUTHANASIA
325-08 M	483	509	523	543	561	562	573	SCHEDULED EUTHANASIA
329-05 M	530	559	583	588	613	629	640	SCHEDULED EUTHANASIA
354-05 M	493	505	527	537	558	FOUND DEAD		
363-06 M	556	593	618	620	646	667	688	SCHEDULED EUTHANASIA
377-05 M	528	560	574	583	597	582	622	SCHEDULED EUTHANASIA
397-02 M	432	446	472	476	489	496	511	SCHEDULED EUTHANASIA
397-06 M	529	549	570	583	603	615	627	636
406-07 M	507	533	546	559	584	598	609	628
409-03 M	414	424	440	451	471	488	504	524
411-01 M	444	452	469	472	487	505	523	541
413-04 M	460	469	489	504	523	537	547	558
419-10 M	475	488	507	511	534	557	570	585
422-04 M	395	403	421	426	433	447	452	460
423-03 M	FOUND DEAD							
428-03 M	506	521	539	554	579	597	598	609
428-09 M	512	536	560	572	590	602	610	623
429-06 M	432	447	460	482	499	498	521	529
430-06 M	437	450	467	476	491	499	514	518
431-03 M	486	510	528	512	519	534	543	543
440-04 M	477	500	519	531	549	572	587	605
447-02 M	487	500	518	527	548	564	579	589
629-07 M	455	473	491	501	516	535	547	558
MEAN	478	497	517	525	543	555	569	567
S. D.	42.8	49.2	50.9	50.8	54.1	57.3	59.2	49.4
N	27	27	27	27	27	26	26	15





APPENDIX BB  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
303-03 M	64	92	144	209	264	327	375	410	441	468
316-02 M	62	89	145	212	276	334	385	429	467	499
326-05 M	56	89	148	207	274	333	387	421	462	493
328-04 M	a	73	111	173	238	299	356	394	433	456
344-05 M	62	92	147	212	263	325	374	412	442	467
346-05 M	65	86	138	208	273	332	386	427	459	497
346-09 M	65	84	142	211	272	332	380	416	447	472
347-07 M	60	102	169	234	304	356	414	439	478	505
350-09 M	48	77	129	192	253	319	368	409	448	484
360-04 M	63	82	132	189	245	302	344	384	411	433
361-04 M	57	78	133	202	270	335	386	425	455	480
365-05 M	59	93	159	224	290	350	398	435	472	496
374-04 M	56	82	131	191	258	320	370	408	435	462
375-02 M	57	95	159	219	277	337	379	412	444	463
381-02 M	59	94	152	214	269	308	343	374	398	422
389-04 M	56	76	128	183	236	291	333	363	388	404
393-06 M	57	75	126	192	262	325	370	407	443	480
398-07 M	56	83	142	200	264	316	356	386	418	438
402-06 M	63	97	164	228	292	351	402	447	491	517
410-04 M	60	101	162	221	289	349	393	428	459	488
414-06 M	52	87	143	204	261	320	362	384	410	429
416-01 M	63	81	136	202	261	311	352	383	415	439
416-03 M	62	81	130	188	248	299	343	377	412	439
417-04 M	61	91	144	207	267	323	359	391	427	458
389-06 M	57	73	132	188	231	288	329	357	382	396
436-02 M	64	105	164	227	296	364	423	469	500	543
443-05 M	54	89	139	195	250	304	349	378	403	434
451-01 M	62	92	147	206	263	326	376	418	460	487
MEAN	59	87	143	205	266	324	371	407	439	466
S. D.	4.2	8.8	13.7	14.8	18.0	19.6	23.5	26.6	30.1	34.4
N	27	28	28	28	28	28	28	28	28	28

a BODY WEIGHTS INITIATED ON WEEK 2.







APPENDIX BB  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
306-05 F	62	84	126	161	186	208	221	240	240	252
311-13 F	48	66	103	128	156	172	191	198	214	217
317-13 F	a	49	81	126	163	187	209	222	233	239
321-10 F	48	76	125	161	190	224	242	254	264	269
323-12 F	54	69	106	146	173	193	215	224	234	240
345-05 F	64	82	130	181	210	246	271	284	301	276
345-08 F	66	82	129	174	201	237	251	263	286	297
348-13 F	60	96	140	175	197	220	226	250	252	267
353-11 F	54	67	108	147	173	200	220	220	253	258
355-13 F	53	76	120	160	194	229	245	270	280	301
371-03 F	65	83	125	156	182	209	223	236	256	261
380-09 F	56	74	117	151	181	203	221	241	251	260
384-13 F	45	76	124	159	183	214	229	240	250	264
388-13 F	48	73	113	147	171	200	213	232	248	256
390-09 F	54	73	113	146	167	204	216	236	249	260
390-11 F	54	72	107	141	159	183	189	215	219	231
400-10 F	54	70	111	153	179	213	216	241	254	265
403-12 F	49	76	114	148	164	187	197	215	232	239
408-12 F	50	69	109	140	156	176	176	195	195	212
420-05 F	66	85	130	171	201	225	236	254	265	278
425-13 F	47	FOUND DEAD - ACCIDENTAL INJURY								
426-14 F	52	78	116	151	177	202	212	232	245	247
427-14 F	49	68	115	158	187	217	229	245	261	271
449-11 F	55	75	124	165	176	209	219	239	248	259
449-12 F	58	82	124	163	212	229	235	241	262	275
450-13 F	59	85	138	181	212	262	286	310	324	343
628-07 F	55	88	127	162	185	205	225	229	254	255
628-12 F	59	95	138	167	183	200	225	235	246	259
MEAN	55	77	119	156	182	209	223	239	252	261
S. D.	6.1	9.7	12.7	14.1	16.3	20.7	23.2	24.1	25.7	26.0
N	27	27	27	27	27	27	27	27	27	27

a BODY WEIGHTS INITIATED ON WEEK 2.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX BB  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

PAGE 12

GROUP 1: 0 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
306-05 F	258	262	274					
311-13 F	235	234	246					
317-13 F	260	264	272					
321-10 F	280	283	291					
323-12 F	245	241	247					
345-05 F	308	315	324					
345-08 F	299	303	313					
348-13 F	275	303	323					
353-11 F	274	289	283					
355-13 F	314	333	330					
371-03 F	258	289	304					
380-09 F	268	278	296					
384-13 F	272	275	277					
388-13 F	257	285	304					
390-09 F	263	273	282					
390-11 F	234	264	274	275				
400-10 F	270	286	289					
403-12 F	242	253	266					
408-12 F	213	248	253					
420-05 F	281	307	327	314	319	324	325	317
425-13 F	FOUND DEAD	ACCIDENTAL INJURY						
426-14 F	268	274	281					
427-14 F	280	285	294					
449-11 F	274	277	281					
449-12 F	282	283	297					
450-13 F	355	384	410	403	444	428	416	426
628-07 F	270	291	309					
628-12 F	287	308	310					
MEAN	271	285	295	331	382	376	371	372
S. D.	27.7	30.1	32.7	65.6	--	--	--	--
N	27	27	27	3	2	2	2	2

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX DD. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

APPENDIX BB

GROUP 2: 1.0 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
310-04 F	50	72	116	148	158	184	193	218	226	235
312-08 F	52	71	107	141	166	184	215	228	242	250
313-07 F	50	64	101	142	172	193	224	257	265	265
314-12 F	64	89	140	183	213	247	266	276	299	305
324-12 F	64	90	135	174	197	226	253	262	277	289
325-13 F	61	84	126	159	176	201	206	224	236	237
329-11 F	58	81	120	162	177	204	220	235	244	246
329-12 F	63	81	127	172	197	223	250	257	278	288
354-10 F	a	68	101	153	184	204	228	250	265	269
363-11 F	52	61	104	146	168	194	217	236	254	259
377-09 F	70	76	129	170	202	217	238	259	259	280
397-15 F	59	80	121	157	187	212	229	248	263	272
406-04 F	48	66	106	148	175	196	226	243	256	257
409-09 F	51	71	107	145	168	183	202	211	230	244
411-10 F	52	80	116	144	167	192	205	226	247	258
411-11 F	54	83	125	156	175	197	215	226	235	251
413-09 F	57	75	108	156	186	214	223	255	248	256
419-14 F	56	73	113	152	177	200	214	228	241	249
422-13 F	58	77	128	168	189	220	234	255	266	275
423-12 F	38	52	77	104	117	130	144	157	159	176
428-15 F	57	85	135	172	196	224	250	263	286	300
429-12 F	57	86	133	163	173	194	211	231	239	252
429-14 F	61	87	124	161	184	196	214	229	237	241
430-17 F	52	78	130	168	188	213	230	240	251	264
431-11 F	51	84	133	174	203	233	254	264	282	284
440-15 F	56	81	136	167	194	231	246	261	278	295
447-17 F	50	79	121	148	165	190	207	219	235	241
629-17 F	54	76	118	156	182	207	226	238	249	261
MEAN	55	77	119	157	180	204	223	239	251	261
S. D.	6.4	8.9	14.1	15.3	18.2	21.6	23.6	23.1	26.0	25.6
N	27	28	28	28	28	28	28	28	28	28

a BODY WEIGHTS INITIATED ON WEEK 2.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX BB  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
310-04 F	256	275	262					
312-08 F	264	271	292					
313-07 F	273	304	307					
314-12 F	319	325	329					
324-12 F	300	300	302					
325-13 F	239	251	254	258	256	262	271	266
329-11 F	261	266	276					
329-12 F	292	304	314					
354-10 F	287	309	315					
363-11 F	280	281	284					
377-09 F	301	325	343					
397-15 F	282	309	330					
406-04 F	270	296	310					
409-09 F	252	251	268					
411-10 F	264	275	286					
411-11 F	265	283	291					
413-09 F	286	299	286	302	305	303	302	301
419-14 F	254	259	272					
422-13 F	280	293	298					
423-12 F	175	189	191	209	231	293		
428-15 F	328	346	326					
429-12 F	255	270	273					
429-14 F	254	280	295					
430-17 F	272	293	314					
431-11 F	298	324	317					
440-15 F	319	342	324					
447-17 F	263	287	277	294				
629-17 F	273	273	281					
MEAN	274	289	293	266	264	286	287	284
S. D.	29.4	31.8	30.4	42.4	37.6	21.4	--	--
N	28	28	28	4	3	3	2	2

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX DD. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

APPENDIX BB  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

WEEK	1	2	3	4	5	6	7	8	9	10
304-11 F	63	91	140	173	205	225	244	262	281	292
307-13 F	58	90	129	156	183	208	218	236	255	261
332-05 F	68	80	129	167	201	229	249	267	285	297
338-10 F	56	77	121	158	189	206	232	241	254	261
340-10 F	63	92	146	183	223	249	285	300	321	326
342-05 F	59	74	109	138	157	178	189	207	227	234
343-09 F	50	77	105	128	149	173	189	200	209	219
351-11 F	62	96	145	178	203	225	237	256	273	287
351-12 F	62	94	139	182	212	244	269	290	312	326
356-14 F	59	90	137	172	195	219	236	260	275	a
357-10 F	52	71	109	143	166	183	208	216	237	247
359-13 F	54	79	126	166	198	224	250	269	297	305
367-08 F	59	84	120	155	170	183	209	229	234	236
367-10 F	56	80	124	150	170	206	220	229	242	249
368-10 F	56	80	123	156	186	205	216	235	242	257
372-09 F	57	84	132	178	203	244	266	280	289	305
373-08 F	51	76	116	146	172	193	209	221	234	236
382-08 F	57	82	125	161	181	207	223	241	249	252
382-09 F	58	83	122	150	171	196	223	230	239	254
385-07 F	56	86	122	154	173	187	209	228	230	249
404-07 F	42	58	98	142	180	192	211	219	229	238
418-12 F	55	77	120	153	175	198	217	236	251	256
421-12 F	52	89	136	168	181	205	231	248	266	278
432-12 F	50	71	117	152	168	191	206	215	227	232
439-11 F	58	83	125	161	183	209	239	218	248	265
444-16 F	60	85	131	163	197	216	242	255	271	282
445-13 F	57	80	125	165	196	230	257	266	286	293
625-08 F	54	76	119	155	180	204	227	235	253	263
MEAN	57	82	125	159	185	208	229	241	256	266
S. D.	5.1	8.1	11.5	14.1	17.1	20.3	23.2	25.0	27.5	28.4
N	28	28	28	28	28	28	28	28	28	27

a ELIMINATED DUE TO TECHNICAL ERROR.

GROUP 3: 2.5 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
304-11 F	296	305	308					
307-13 F	258	277	284					
332-05 F	285	292	301	329	344	329	a	332
338-10 F	257	272	272					
340-10 F	342	364	394					
342-05 F	242	249	249					
343-09 F	232	250	271					
351-11 F	296	307	313					
351-12 F	331	347	358					
356-14 F	294	302	312					
357-10 F	254	283	302					
359-13 F	326	351	374					
367-08 F	250	254	265					
367-10 F	249	285	294					
368-10 F	270	291	288					
372-09 F	308	321	344					
373-08 F	237	265	273					
382-08 F	282	300	294					
382-09 F	261	287	293					
385-07 F	263	269	271					
404-07 F	257	263	265					
418-12 F	271	291	302					
421-12 F	286	297	301					
432-12 F	249	257	262					
439-11 F	275	300	300					
444-16 F	304	315	306					
445-13 F	314	331	332					
625-08 F	286	292	285					
MEAN	278	293	300	329	344	329		332
S. D.	29.3	30.0	34.2	--	--	--		--
N	28	28	28	1	1	1	1	1

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX DD. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

a NOT RECORDED DUE TO TECHNICAL ERROR.



APPENDIX BB  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
303-07 F	329	347	340					
316-12 F	273	281	276					
326-09 F	254	253	264					
328-08 F	268	277	281					
330-01 F	246	260	263					
344-09 F	252	254	268					
346-15 F	259	277	285					
347-12 F	273	307	327	345	344	320	311	320
350-11 F	299	301	313					
360-08 F	276	297	312	322				
361-13 F	246	257	268					
365-09 F	299	305	317	335	364	405		
374-09 F	286	308	295					
375-12 F	276	296	293					
381-11 F	272	302	316	322	346	407		
389-09 F	FOUND DEAD	FOUND DEAD	ACCIDENTAL INJURY					
393-14 F	287	287	300					
398-10 F	269	285	273					
402-10 F	264	282	283					
410-12 F	268	317	281					
414-09 F	320	320	322	347	356	340	342	346
416-08 F	283	309	297					
416-09 F	279	304	287	307				
417-13 F	276	292	308					
436-08 F	322	350	350					
436-12 F	308	322	348					
443-12 F	254	252	264					
451-16 F	295	321	330					
MEAN	279	295	299	330	353	368	327	333
S. D.	22.6	26.4	26.4	15.5	9.3	44.6	--	--
N	27	27	27	6	4	4	2	2

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX DD. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.





SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX BB  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT DATA (GRAMS)

GROUP 5: 10.0 MG/KG/DAY

WEEK	11	12	13	14	15	16	17	18
308-14 F	250	246	262					
318-04 F	286	313	331					
318-10 F	265	299	314	322	347	405		
319-10 F	278	290	286					
327-04 F	302	327	320					
331-08 F	266	290	295					
333-06 F	260	272	289					
336-08 F	256	269	280					
337-07 F	297	315	310					
352-12 F	296	322	328	319	308	303	306	309
358-09 F	270	290	298					
362-04 F	322	344	368					
364-13 F	265	279	279					
378-10 F	342	372	368					
394-11 F	262	276	281					
395-15 F	251	273	283					
396-16 F	282	293	289					
399-12 F	311	312	334					
405-08 F	274	284	295					
415-12 F	264	287	309					
434-10 F	318	333	336					
435-13 F	238	255	269					
437-08 F	296	314	302					
438-15 F	285	301	298					
441-10 F	233	235	245					
448-04 F	351	371	399					
434-08 F	273	301	307					
627-11 F	256	270	274					
MEAN	280	298	305	321	328	354	306	309
S. D.	29.2	33.0	34.1	--	--	--	--	--
N	28	28	28	2	2	2	1	1

NOTE: BODY WEIGHT MEASUREMENTS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHTS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX DD. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

SLI Study No. 3472.4

APPENDIX CC

Individual F1 Parental Body Weight Gain Data

APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
306-01 M	24	53	48	65	61	62	52	46	36	27	25									
306-02 M	22	48	59	59	50	53	45	36	36	30	24									
311-06 M	24	44	61	58	58	53	47	35	35	19	2									
317-04 M	a	32	59	61	59	59	49	45	37	28	25									
321-01 M	32	47	65	56	58	58	38	31	40	26	14									
321-04 M	33	56	63	65	65	54	49	42	33	29	13									
323-05 M	18	50	59	53	59	53	50	39	31	26	18									
323-06 M	19	49	59	56	56	54	45	28	32	11	27									
345-01 M	21	60	64	64	64	66	60	43	35	28	18									
348-04 M	40	61	62	62	62	41	41	37	24	31	-3									
353-06 M	20	53	65	65	64	64	28	29	24	24	19									
355-05 M	26	39	55	55	53	54	45	35	28	13	13									
371-01 M	25	58	64	56	56	50	38	39	30	27	21									
380-04 M	19	48	63	63	63	67	44	41	38	21	20									
384-05 M	34	59	65	65	71	65	58	45	39	36	32									
388-03 M	32	59	55	55	56	63	59	46	44	26	25									
390-04 M	22	45	59	55	55	51	39	32	31	18	12									
400-06 M	19	48	66	66	57	55	47	40	32	20	11									
355-02 M	24	48	62	62	58	66	44	27	26	44	24									
403-06 M	32	55	61	61	65	41	41	31	40	36	15									
408-03 M	24	42	54	54	51	53	43	26	25	26	16									
420-02 M	19	60	69	69	65	64	57	41	23	31	19									
425-07 M	23	53	62	62	52	52	38	35	30	25	16									
426-05 M	34	48	55	55	57	56	43	33	21	12	26									
427-02 M	19	49	65	65	68	52	52	37	27	19	26									
449-05 M	25	55	68	68	61	69	61	39	32	29	30									
450-06 M	35	66	70	70	74	77	70	51	44	37	22									
628-04 M	42	63	66	66	59	64	46	46	38	29	25									
MEAN	26	52	62	62	60	59	48	38	33	26	19									
S. D.	6.9	7.7	4.3	4.3	5.9	6.7	8.1	6.6	6.1	7.6	7.9									
N	27	28	28	28	28	28	28	28	28	28	28									

a BODY WEIGHT GAINS INITIATED ON WEEK 2.



APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
310-01 M	26		47		54		52		48		28		25		26		24		15	
312-03 M	24		50		60		59		61		33		42		35		22		19	
312-06 M	22		51		65		61		61		41		35		40		29		27	
313-03 M	19		45		62		60		55		53		38		37		26		28	
314-03 M	32		69		76		71		61		43		23		51		29		16	
324-02 M	27		51		60		63		70		57		38		40		34		15	
325-08 M	30		52		61		60		57		47		41		27		28		25	
329-05 M	17		49		70		71		69		58		35		41		34		22	
354-05 M	a		39		67		64		59		59		41		39		27		25	
363-06 M	15		53		67		65		73		64		36		48		46		30	
377-05 M	7		62		70		65		69		52		39		35		33		20	
397-02 M	24		46		54		46		47		42		33		27		26		21	
397-06 M	28		57		68		62		68		48		39		43		36		22	
406-07 M	8		63		63		61		69		61		25		38		33		29	
409-03 M	19		43		51		48		56		41		35		33		16		17	
411-01 M	33		51		55		55		53		40		32		30		23		15	
413-04 M	17		52		65		57		60		40		42		24		26		19	
419-10 M	21		54		68		64		60		41		32		35		24		18	
422-04 M	18		43		54		52		49		41		34		18		22		8	
423-03 M	18		32		37		39		34		39		20		17		-13		FOUND DEAD	
428-03 M	33		62		61		69		60		43		33		34		26		27	
428-09 M	32		65		60		69		59		47		36		27		36		21	
429-06 M	30		51		63		54		55		42		14		23		16		24	
430-06 M	24		54		58		47		48		40		32		31		27		20	
431-03 M	35		56		58		60		58		54		39		34		27		13	
440-04 M	31		52		58		57		58		53		35		30		25		23	
447-02 M	36		59		65		60		59		47		29		32		21		21	
629-07 M	31		53		57		59		51		40		35		36		27		9	
MEAN	24		52		61		59		58		46		34		33		26		20	
S. D.	7.9		8.0		7.5		7.8		8.4		8.7		6.8		8.1		9.9		5.7	
N	27		28		28		28		28		28		28		28		28		27	

a BODY WEIGHT GAINS INITIATED ON WEEK 2.

APPENDIX CC

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	11 TO	12	13	14	15	16	17	18
310-01 M	6	13	8	15	4	-3	SCHEDULED	EUTHANASIA
312-03 M	23	21	0	11	-4	22	SCHEDULED	EUTHANASIA
312-06 M	32	25	15	28	17	24	SCHEDULED	EUTHANASIA
313-03 M	29	19	14	17	23	11	SCHEDULED	EUTHANASIA
314-03 M	12	26	0	9	13	17	SCHEDULED	EUTHANASIA
324-02 M	28	19	8	29	23	5	SCHEDULED	EUTHANASIA
325-08 M	26	14	20	18	1	11	SCHEDULED	EUTHANASIA
329-05 M	29	24	5	25	16	11	SCHEDULED	EUTHANASIA
354-05 M	12	22	10	21	18	21	FOUND DEAD	
363-06 M	37	25	2	26	21	21	SCHEDULED	EUTHANASIA
377-05 M	32	14	9	14	-15	40	SCHEDULED	EUTHANASIA
397-02 M	14	26	4	13	7	15	SCHEDULED	EUTHANASIA
397-06 M	20	21	13	20	12	9		
406-07 M	26	13	13	25	14	11		
409-03 M	10	16	11	20	17	16		
411-01 M	8	17	3	15	18	18		
413-04 M	9	20	15	19	14	10		
419-10 M	13	19	4	23	23	13		
422-04 M	8	18	5	7	14	5		
423-03 M	FOUND DEAD							
428-03 M	15	18	15	25	18	1		
428-09 M	24	24	12	18	12	8		
429-06 M	15	13	22	17	-1	23		
430-06 M	13	17	9	15	8	15		
431-03 M	24	18	-16	7	15	9		
440-04 M	23	19	12	18	23	15		
447-02 M	13	18	9	21	16	15		
629-07 M	18	18	10	15	19	12		
MEAN	19	19	9	18	13	14		
S. D.	8.7	4.0	7.4	6.0	9.2	8.4		
N	27	27	27	27	27	26		







APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
303-03 M	28	52	65	55	63	48	51	35	31	27	17									
316-02 M	27	56	67	64	58	51	44	44	38	32	26									
326-05 M	33	59	59	67	59	54	34	34	41	20	20									
328-04 M	a	38	62	65	61	57	38	38	39	23	34									
344-05 M	30	55	65	51	62	49	38	38	30	25	16									
346-05 M	21	52	70	65	59	54	41	41	32	38	20									
346-09 M	19	58	69	61	60	48	36	36	31	25	17									
347-07 M	42	67	65	70	52	58	25	25	39	27	36									
350-09 M	29	52	63	61	66	49	41	41	39	36	20									
360-04 M	19	50	57	56	57	42	40	40	27	22	21									
361-04 M	21	55	69	68	65	51	39	39	30	25	15									
365-05 M	34	66	65	66	60	48	37	37	37	24	15									
374-04 M	26	49	60	67	62	50	38	38	27	27	9									
375-02 M	38	64	60	58	60	42	33	33	32	19	20									
381-02 M	35	58	62	55	39	35	31	31	24	24	13									
389-04 M	20	52	55	53	55	42	30	30	25	16	16									
393-06 M	18	51	66	70	63	45	37	37	36	37	21									
398-07 M	27	59	58	64	52	40	30	32	32	20	21									
402-06 M	34	67	64	64	59	51	45	45	44	26	14									
410-04 M	41	61	59	68	60	44	35	35	31	29	13									
414-06 M	35	56	61	57	59	42	22	22	26	19	22									
416-01 M	18	55	66	41	50	41	31	31	32	24	12									
416-03 M	19	49	58	60	51	44	34	34	35	27	22									
417-04 M	30	53	63	60	56	36	32	32	36	31	11									
389-06 M	16	59	56	43	133	-35	28	28	25	14	14									
436-02 M	41	59	63	69	-8	135	46	46	31	43	20									
443-05 M	35	50	56	55	54	45	29	29	25	31	11									
451-01 M	30	55	59	57	63	50	42	42	42	27	30									
MEAN	28	56	62	61	58	47	35	35	33	27	19									
S. D.	7.9	6.3	4.2	6.5	20.0	23.8	5.9	5.9	5.7	6.6	6.6									
N	27	28	28	28	28	28	28	28	28	28	28									

a BODY WEIGHT GAINS INITIATED ON WEEK 2.

APPENDIX CC  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	11 TO	12 TO	13 TO	13 TO	14 TO	14 TO	15 TO	15 TO	16 TO	16 TO	17 TO	17 TO	18 TO	18 TO
303-03 M	13	15	13	15	13	15	11	10	10	10	10	10	10	SCHEDULED EUTHANASIA
316-02 M	20	17	11	23	11	23	10	13	10	10	13	10	10	SCHEDULED EUTHANASIA
326-05 M	21	15	10	24	10	24	20	-9	20	-9	-9	20	20	SCHEDULED EUTHANASIA
328-04 M	21	28	12	27	12	27	27	11	27	11	11	11	11	SCHEDULED EUTHANASIA
344-05 M	29	13	4	22	4	22	23	9	23	9	9	9	9	SCHEDULED EUTHANASIA
346-05 M	15	24	19	21	19	21	17	14	17	14	14	14	14	SCHEDULED EUTHANASIA
346-09 M	23	13	8	21	8	21	8	17	22	17	17	17	17	SCHEDULED EUTHANASIA
347-07 M	25	29	11	19	11	19	22	25	22	25	25	25	25	SCHEDULED EUTHANASIA
350-09 M	24	18	-55	43	-55	43	17	5	17	5	5	5	5	SCHEDULED EUTHANASIA
360-04 M	18	18	10	21	10	21	7	2	7	2	2	2	2	SCHEDULED EUTHANASIA
361-04 M	31	10	8	15	8	15	14	17	14	17	17	17	17	SCHEDULED EUTHANASIA
365-05 M	19	12	4	18	4	18	17	15	17	15	15	15	15	SCHEDULED EUTHANASIA
374-04 M	16	19	10	-14	10	-14	38	14	38	14	14	14	14	SCHEDULED EUTHANASIA
375-02 M	29	13	4	17	4	17	-48	88	-48	88	88	88	88	6
381-02 M	15	14	11	14	11	14	91	-66	91	-66	6	6	6	12
389-04 M	-19	28	0	15	0	15	8	11	8	11	15	11	11	11
393-06 M	16	18	12	25	12	25	6	16	6	16	10	10	10	10
398-07 M	17	21	14	21	14	21	0	7	0	7	-22	-22	-22	6
402-06 M	18	18	8	14	8	14	23	6	23	6	6	6	6	16
410-04 M	22	12	-3	19	-3	19	16	21	16	21	12	12	12	12
414-06 M	13	21	19	25	19	25	12	10	12	10	10	10	10	10
416-01 M	14	19	-10	4	-10	4	14	5	14	5	19	19	19	19
416-03 M	18	19	9	14	9	14	14	6	14	6	6	6	6	18
417-04 M	17	11	6	17	6	17	11	8	11	8	7	7	7	7
389-06 M	20	15	13	9	13	9	18	9	18	9	1	1	1	1
436-02 M	15	24	4	13	4	13	25	18	25	18	30	30	30	30
443-05 M	25	21	6	17	6	17	11	7	11	7	7	7	7	7
451-01 M	18	11	13	24	13	24	25	18	25	18	20	20	20	20
MEAN	18	18	6	18	6	18	16	11	16	11	10	10	10	10
S. D.	8.8	5.6	13.4	9.3	13.4	9.3	20.5	22.0	20.5	22.0	11.1	11.1	11.1	11.1
N	28	28	28	28	28	28	28	28	28	28	16	16	16	16



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPIERA, INC. INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)  
 APPENDIX CC

GROUP 5: 10.0 MG/KG/DAY

WEEK	INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)																	
	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16	16 TO	17	17 TO	18	SCHEDULED EUTHANASIA			
308-02 M	8		18		-3		17		5		6		6		13		SCHEDULED EUTHANASIA	
318-03 M	19		29		3		16		11		18		18		20		SCHEDULED EUTHANASIA	
319-07 M	8		15		16		13		17		2		2		15		SCHEDULED EUTHANASIA	
327-02 M	-21		37		6		19		18		17		17		18		SCHEDULED EUTHANASIA	
331-06 M	14		21		11		10		10		8		8		11		SCHEDULED EUTHANASIA	
333-04 M	1		17		9		17		11		13		13		13		SCHEDULED EUTHANASIA	
336-02 M	21		11		14		30		8		10		10		13		SCHEDULED EUTHANASIA	
337-04 M	20		21		-1		16		12		14		14		14		SCHEDULED EUTHANASIA	
352-08 M	17		24		-12		12		7		16		16		16		SCHEDULED EUTHANASIA	
358-04 M	19		15		15		18		15		8		8		8		SCHEDULED EUTHANASIA	
362-02 M	21		17		14		19		15		9		9		9		SCHEDULED EUTHANASIA	
364-03 M	24		5		5		20		16		17		17		17		SCHEDULED EUTHANASIA	
378-08 M	9		13		5		19		21		9		9		13		SCHEDULED EUTHANASIA	
394-05 M	11		11		10		16		0		2		2		20		SCHEDULED EUTHANASIA	
395-06 M	9		31		5		20		18		13		13		8		SCHEDULED EUTHANASIA	
396-01 M	15		24		2		11		20		-16		-16		15		SCHEDULED EUTHANASIA	
399-02 M	34		21		17		28		18		18		18		20		SCHEDULED EUTHANASIA	
405-05 M	16		15		9		20		15		16		16		7		SCHEDULED EUTHANASIA	
415-02 M	18		13		6		20		16		9		9		11		SCHEDULED EUTHANASIA	
434-02 M	33		10		13		92		-63		18		18		12		SCHEDULED EUTHANASIA	
435-03 M	18		17		26		28		12		11		11		9		SCHEDULED EUTHANASIA	
437-03 M	20		30		18		29		19		4		4		24		SCHEDULED EUTHANASIA	
437-05 M	11		27		-5		31		13		11		11		21		SCHEDULED EUTHANASIA	
438-02 M	17		9		6		8		16		18		18		15		SCHEDULED EUTHANASIA	
441-02 M	24		23		-6		24		11		24		24		16		SCHEDULED EUTHANASIA	
448-02 M	25		36		5		28		16		23		23		28		SCHEDULED EUTHANASIA	
626-02 M	20		17		13		12		21		3		3		14		SCHEDULED EUTHANASIA	
627-07 M	8		16		6		16		11		3		3		5		SCHEDULED EUTHANASIA	
MEAN	16		19		7		22		11		11		11		15		SCHEDULED EUTHANASIA	
S. D.	10.3		8.1		8.2		15.2		15.3		8.1		8.1		6.4		SCHEDULED EUTHANASIA	
N	28		28		28		28		28		28		28		16		SCHEDULED EUTHANASIA	

APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
306-05 F	22	42	35	35	25	22	13	19	19	13	19	19	19	0	12	12	6	6	6
311-13 F	18	37	25	28	28	16	19	7	16	19	7	7	7	16	3	3	18	18	18
317-13 F	a	32	45	37	37	24	22	13	11	24	13	13	13	11	6	6	21	21	21
321-10 F	28	49	36	29	29	34	18	12	10	34	18	12	12	10	5	5	11	11	11
323-12 F	15	37	40	27	20	20	22	9	10	40	20	9	9	10	6	6	5	5	5
345-05 F	18	48	51	29	29	36	25	13	17	51	25	13	13	17	-25	-25	32	32	32
345-08 F	16	47	45	27	27	36	14	12	23	45	14	12	12	23	11	11	2	2	2
348-13 F	36	44	35	22	22	23	6	24	2	35	6	24	24	2	15	15	8	8	8
353-11 F	13	41	39	26	26	27	15	5	33	39	15	5	5	33	5	5	16	16	16
355-13 F	23	44	40	34	34	35	16	25	10	40	16	25	25	10	21	21	13	13	13
371-03 F	18	42	31	26	26	27	14	13	20	31	14	13	13	20	5	5	-3	-3	-3
380-09 F	18	43	34	30	30	22	18	20	10	34	18	20	20	10	9	9	8	8	8
384-13 F	31	48	35	24	24	31	15	11	10	35	15	11	11	10	14	14	8	8	8
388-13 F	25	40	34	24	24	29	13	19	16	34	13	19	19	16	8	8	1	1	1
390-09 F	19	40	33	21	21	37	12	20	13	33	12	20	20	13	11	11	3	3	3
390-11 F	18	35	34	18	18	24	6	26	4	34	6	26	26	4	12	12	3	3	3
400-10 F	16	41	42	26	26	34	3	25	13	42	3	25	25	13	11	11	5	5	5
403-12 F	27	38	34	16	16	23	10	18	17	34	10	18	18	17	7	7	3	3	3
408-12 F	19	40	31	16	16	20	0	19	0	31	0	19	19	0	17	17	1	1	1
420-05 F	19	45	41	30	30	24	11	18	11	41	11	18	18	11	13	13	3	3	3
425-13 F	21	FOUND DEAD	ACCIDENTAL INJURY																
426-14 F	26	38	35	26	26	25	10	20	13	35	10	20	20	13	2	2	21	21	21
427-14 F	19	47	43	29	29	30	12	16	16	43	12	16	16	16	10	10	9	9	9
449-11 F	20	49	41	11	11	33	10	20	9	41	10	20	20	9	11	11	15	15	15
449-12 F	24	42	39	49	49	17	6	6	21	39	6	6	6	21	13	13	7	7	7
450-13 F	26	53	43	31	31	50	24	24	14	43	24	24	24	14	19	19	12	12	12
628-07 F	33	39	35	23	23	20	20	4	25	35	20	4	4	25	1	1	15	15	15
628-12 F	36	43	29	16	16	17	25	10	11	29	25	10	10	11	13	13	28	28	28
MEAN	22	42	37	26	26	27	14	16	13	37	14	16	16	13	9	9	10	10	10
S. D.	6.3	4.8	5.7	7.5	7.5	7.8	6.6	6.5	7.4	5.7	6.6	6.5	6.5	7.4	8.4	8.4	8.5	8.5	8.5
N	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27

a BODY WEIGHT GAINS INITIATED ON WEEK 2.

APPENDIX CC  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18
306-05 F	4	12					
311-13 F	-1	12					
317-13 F	4	8					
321-10 F	3	8					
323-12 F	-4	6					
345-05 F	7	9					
345-08 F	4	10					
348-13 F	28	20					
353-11 F	15	-6					
355-13 F	19	-3					
371-03 F	31	15					
380-09 F	10	18					
384-13 F	3	2					
388-13 F	28	19					
390-09 F	10	9					
390-11 F	30	1					
400-10 F	16	3					
403-12 F	11	13					
408-12 F	35	5					
420-05 F	26	20	-13	5	5	1	-8
425-13 F	FOUND DEAD	- ACCIDENTAL INJURY					
426-14 F	6	7					
427-14 F	5	9					
449-11 F	3	4					
449-12 F	1	14					
450-13 F	29	26	-7	41	-16	-12	10
628-07 F	21	18					
628-12 F	21	2					
MEAN	14	10	-6	23	-6	-6	1
S. D.	11.6	7.4	7.0	--	--	--	--
N	27	27	3	2	2	2	2

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX EE. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
310-04 F	22	44	32	10	26	9	25	8	21	13	8	21	9	8	21	9	8	21	9	21
312-08 F	19	36	34	25	28	21	13	14	21	13	14	13	8	14	14	8	8	14	8	14
313-07 F	14	37	41	30	21	31	19	14	31	19	14	19	8	14	14	8	8	14	8	14
314-12 F	25	51	43	30	34	19	10	23	19	10	23	10	6	23	14	6	6	14	6	14
324-12 F	26	45	39	23	29	27	9	15	27	9	15	9	12	15	11	12	12	11	11	11
325-13 F	23	42	33	17	25	5	18	12	5	18	12	5	1	12	2	1	1	2	1	2
329-11 F	23	39	42	15	27	16	15	9	16	15	9	15	2	9	2	2	2	15	2	15
329-12 F	18	46	45	25	26	27	7	21	27	7	21	7	10	21	4	10	10	4	4	4
354-10 F	a	33	52	31	20	24	22	15	24	22	15	4	4	15	4	4	4	18	4	18
363-11 F	9	43	42	22	26	23	19	18	23	19	18	19	5	18	5	5	5	21	5	21
377-09 F	6	53	41	32	15	21	21	0	21	21	0	21	21	0	21	21	21	21	21	21
397-15 F	21	41	36	30	25	17	19	15	17	19	15	19	9	15	9	9	9	10	9	10
406-04 F	18	40	42	27	21	30	17	13	21	17	13	17	1	13	1	1	1	13	1	13
409-09 F	20	36	38	23	15	19	9	9	19	9	9	9	14	19	14	14	14	8	14	8
411-10 F	28	36	28	23	25	13	21	21	13	21	21	21	11	21	11	11	11	6	11	6
411-11 F	29	42	31	19	22	18	11	9	18	11	9	11	16	9	16	16	16	14	16	14
413-09 F	18	33	48	30	28	9	32	-7	9	32	-7	8	8	8	30	8	8	30	8	30
419-14 F	17	40	39	25	23	14	14	14	14	14	14	14	5	13	5	5	5	5	5	5
422-13 F	19	51	40	21	31	14	21	11	14	21	11	21	9	11	9	9	9	5	9	5
423-12 F	14	25	27	13	13	14	13	2	14	13	2	13	17	2	17	17	17	-1	17	-1
428-15 F	28	50	37	24	28	26	13	23	26	13	23	13	14	23	14	14	14	28	14	28
429-12 F	29	47	30	10	21	17	20	8	17	20	8	20	13	8	13	13	13	3	13	3
429-14 F	26	37	37	23	12	18	15	8	18	15	8	15	4	8	4	4	4	13	4	13
430-17 F	26	52	38	20	25	17	10	11	17	10	11	10	13	11	13	13	13	8	13	8
431-11 F	33	49	41	29	30	21	10	18	21	10	18	10	2	18	2	2	2	14	2	14
440-15 F	25	55	31	27	37	15	15	17	37	15	17	15	17	17	17	17	17	24	17	24
447-17 F	29	42	27	17	25	17	12	12	17	12	12	12	6	16	6	6	6	22	6	22
629-17 F	22	42	38	26	25	19	12	12	19	12	12	12	12	11	11	11	11	12	11	12
MEAN	22	42	38	23	24	19	16	13	19	16	13	16	9	13	9	9	9	13	9	13
S. D.	6.4	7.1	6.2	6.2	5.9	6.2	5.7	6.8	6.2	5.7	6.8	5.7	5.2	6.8	5.2	5.2	5.2	7.9	5.2	7.9
N	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28

a BODY WEIGHT GAINS INITIATED ON WEEK 2.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

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APPENDIX CC

GROUP 2: 1.0 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16	16 TO	17	17 TO	18
310-04 F	19		-13											
312-08 F	7		21											
313-07 F	31		3											
314-12 F	6		4											
324-12 F	0		2											
325-13 F	12		3	4										
329-11 F	5		10											
329-12 F	12		10											
354-10 F	22		6											
363-11 F	1		3											
377-09 F	24		18											
397-15 F	27		21											
406-04 F	26		14											
409-09 F	-1		17											
411-10 F	11		11											
411-11 F	18		8											
413-09 F	13		-13	16			3							-1
419-14 F	5		13											
422-13 F	13		5											
423-12 F	14		2											
428-15 F	18		-20	18			22							62
429-12 F	15		3											
429-14 F	26		15											
430-17 F	21		21											
431-11 F	26		-7											
440-15 F	23		-18											
447-17 F	24		-10	17										
629-17 F	0		8											
MEAN	15		5	14			8			22	4			-3
S. D.	9.4		11.6	6.6			12.7			34.9	--			--
N	28		28	4			3			3	2			2

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX EE. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.



GROUP 3: 2.5 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
304-11 F	28	49	33	32	20	19	18	19	11	19	19	18	19	19	11	11	4			
307-13 F	32	39	27	27	25	10	10	10	6	19	19	18	18	18	6	6	-3			
332-05 F	12	49	38	34	28	16	4	4	28	38	38	16	18	6	12	12	18			
338-10 F	21	44	37	31	17	26	9	9	17	31	37	26	9	13	7	7	-4			
340-10 F	29	54	46	31	26	36	15	15	26	46	46	36	15	21	5	16	16			
342-05 F	15	35	29	19	21	11	18	18	21	29	29	11	18	20	7	8	8			
343-09 F	27	28	23	21	24	16	11	11	24	28	28	16	11	9	10	13	13			
351-11 F	34	49	33	25	22	12	19	19	22	33	33	12	19	17	14	9	9			
351-12 F	32	45	43	30	32	21	21	21	32	45	45	21	21	22	14	5	5			
356-14 F	31	47	35	23	24	17	24	24	24	35	35	17	24	15	14	a	a			
357-10 F	19	38	34	23	17	25	8	8	17	34	34	25	8	21	10	7	7			
359-13 F	25	47	40	32	26	26	19	19	26	40	40	26	19	28	8	21	21			
367-08 F	25	36	35	15	13	26	6	6	13	36	36	26	6	19	2	14	14			
367-10 F	24	44	26	20	36	14	9	9	36	44	44	14	9	5	15	0	0			
368-10 F	24	43	33	30	19	11	19	19	19	33	33	11	19	7	15	13	13			
372-09 F	27	48	46	25	41	22	14	14	41	48	48	22	14	9	16	3	3			
373-08 F	25	40	30	26	21	16	12	12	21	40	40	16	12	13	2	1	1			
382-08 F	25	43	36	20	26	16	18	18	26	43	43	16	18	8	3	30	30			
382-09 F	25	39	28	21	25	27	7	7	25	39	39	27	7	9	15	7	7			
385-07 F	30	36	32	19	14	22	19	19	14	36	36	22	19	2	19	14	14			
404-07 F	16	40	44	38	12	19	8	8	12	44	44	19	8	10	9	19	19			
418-12 F	22	43	33	22	23	19	19	19	23	43	43	19	19	15	5	15	15			
421-12 F	37	47	32	13	24	26	17	17	24	47	47	26	17	18	12	8	8			
432-12 F	21	46	35	16	23	15	9	9	23	46	46	15	9	12	5	17	17			
439-11 F	25	42	36	22	26	30	30	30	26	42	42	30	30	30	17	10	10			
444-16 F	25	46	32	34	19	26	13	13	19	46	46	26	13	16	11	22	22			
445-13 F	23	45	40	31	34	27	9	9	34	45	45	27	9	20	7	21	21			
625-08 F	22	43	36	25	24	23	8	8	24	43	43	23	8	18	10	23	23			
MEAN	25	43	35	25	24	21	13	13	24	43	43	21	13	15	10	12	12			
S. D.	5.6	5.4	5.8	6.4	6.6	6.5	8.5	8.5	6.6	5.8	5.8	6.5	8.5	6.8	4.7	8.5	8.5			
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27			

a ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX CC  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16	16 TO	17	17 TO	18
304-11 F	9		3											
307-13 F	19		7											
332-05 F	7		9	28			15		-15					
338-10 F	15		0											
340-10 F	22		30											
342-05 F	7		0											
343-09 F	18		21											
351-11 F	11		6											
351-12 F	16		11											
356-14 F	8		10											
357-10 F	29		19											
359-13 F	25		23											
367-08 F	4		11											
367-10 F	36		9											
368-10 F	21		-3											
372-09 F	13		23											
373-08 F	28		8											
382-08 F	18		-6											
382-09 F	26		6											
385-07 F	6		2											
404-07 F	6		2											
418-12 F	20		11											
421-12 F	11		4											
432-12 F	8		5											
439-11 F	25		0											
444-16 F	11		-9											
445-13 F	17		1											
625-08 F	6		-7											
MEAN	16		7	28			15		-15					
S. D.	8.5		9.5	--			--		--					
N	28		28	1			1		1					

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX EE. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
303-07 F	25	44	50	35	22	25	19	16	13	21										
316-12 F	22	43	29	27	16	26	10	10	11	20										
326-09 F	24	47	31	21	20	19	9	17	7	9										
328-08 F	a	31	50	29	25	17	18	17	6	8										
330-01 F	22	43	37	27	19	11	18	17	0	8										
344-09 F	25	43	32	15	25	19	8	7	13	8										
346-15 F	14	43	30	20	22	15	15	11	13	16										
347-12 F	34	44	22	35	20	19	14	10	6	16										
350-11 F	29	52	44	30	20	19	5	12	22	22										
360-08 F	15	44	43	27	26	16	15	14	6	13										
361-13 F	19	39	39	23	19	17	14	17	6	2										
365-09 F	25	-5	73	39	25	24	18	22	3	16										
374-09 F	21	45	32	32	24	20	7	22	11	16										
375-12 F	29	36	35	17	27	24	6	17	13	13										
381-11 F	32	45	31	23	16	27	12	8	10	14										
389-09 F	19	FOUND DEAD	-	ACCIDENTAL INJURY																
393-14 F	17	44	41	21	27	25	15	22	12	10										
398-10 F	20	41	34	29	9	31	10	16	9	20										
402-10 F	22	50	40	10	22	19	15	7	14	13										
410-12 F	31	40	25	18	20	15	7	15	11	30										
414-09 F	32	55	39	32	21	21	13	17	7	28										
416-08 F	16	40	36	18	23	20	9	21	17	21										
416-09 F	16	41	40	26	22	21	6	14	12	19										
417-13 F	29	49	34	22	15	23	19	4	16	8										
436-08 F	36	47	42	32	24	31	16	11	7	19										
436-12 F	32	51	31	28	30	21	26	14	9	11										
443-12 F	32	41	31	16	15	22	3	11	14	16										
451-16 F	27	48	37	27	24	21	15	12	7	17										
MEAN	25	42	37	25	21	21	13	14	10	15										
S. D.	6.4	10.7	9.8	7.0	4.5	4.7	5.4	4.9	4.0	6.8										
N	27	27	27	27	27	27	27	27	27	27										

a BODY WEIGHT GAINS INITIATED ON WEEK 2.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX CC  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

GROUP 4: 5.0 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	13 TO	14	14 TO	15	15 TO	16	16 TO	17	17 TO	18
303-07 F	18		-7											
316-12 F	8		-5											
326-09 F	-1		11											
328-08 F	9		4											
330-01 F	14		3											
344-09 F	2		14											
346-15 F	18		8											
347-12 F	34		20	18		-1	-24		-9		9			
350-11 F	2		12											
360-08 F	21		15	10										
361-13 F	11		11											
365-09 F	6		12	18		29	41							
374-09 F	22		-13											
375-12 F	20		-3											
381-11 F	30		14	6		24	61							
389-09 F	FOUND DEAD		- ACCIDENTAL INJURY											
393-14 F	0		13											
398-10 F	16		-12											
402-10 F	18		1											
410-12 F	49		-36											
414-09 F	0		2	25		9	-16		2		4			
416-08 F	26		-12											
416-09 F	25		-17	20										
417-13 F	16		16											
436-08 F	28		0											
436-12 F	14		26											
443-12 F	-2		12											
451-16 F	26		9											
MEAN	16		4	16		15	16		-4		7			
S. D.	12.2		13.5	6.9		13.8	41.9		--		--			
N	27		27	6		4	4		2		2			

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX EE. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.



APPENDIX CC  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18
308-14 F	-4	16					
318-04 F	27	18					
318-10 F	34	15	8	25	58		
319-10 F	12	-4					
327-04 F	25	-7					
331-08 F	24	5					
333-06 F	12	17					
336-08 F	13	11					
337-07 F	18	-5					
352-12 F	26	6	-9	-11	-5	3	3
358-09 F	20	8					
362-04 F	22	24					
364-13 F	14	0					
378-10 F	30	-4					
394-11 F	14	5					
395-15 F	22	10					
396-16 F	11	-4					
399-12 F	1	22					
405-08 F	10	11					
415-12 F	23	22					
434-10 F	15	3					
435-13 F	17	14					
437-08 F	18	-12					
438-15 F	16	-3					
441-10 F	2	10					
448-04 F	20	28					
434-08 F	28	6					
627-11 F	14	4					
MEAN	17	8	-1	7	27	3	3
S. D.	8.8	10.3	--	--	--	--	--
N	28	28	2	2	2	1	1

NOTE: BODY WEIGHT GAINS FOR FEMALES WITH NO EVIDENCE OF MATING WERE RECORDED WEEKLY UNTIL EUTHANASIA. BODY WEIGHT GAINS FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX EE. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

(935)

SLI Study No. 3472.4

APPENDIX DD

Individual F1 Gestation Body Weight Data

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
G	284	309	339	407	
G	247	279	310	381	
G	285	317	341	403	
G	298	333	365	398	
G	255	285	313	368	
G	322	350	381	454	
G	319	341	374	447	
G	311	334	364	417	
G	278	293	317	386	
G	335	356	387	436	
G	298	314	343	402	
G	287	306	346	424	
G	287	306	329	387	
G	306	320	350	412	
G	280	308	332	410	
G	279	287	314	354	
G	290	304	332	405	
G	266	292	308	366	
G	252	278	307	379	
G	275	311	338	397	
G	298	326	359	431	
NG	278	313	322	294	
G	296	324	351	425	
G	303	320	340	403	
G	310	339	374	429	
MEAN	290	314	342	405	
S. D.	22.0	21.7	23.9	25.5	
N	24	24	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN



APPENDIX DD  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
G	263	289	307	373	
G	274	297	324	391	
G	304	325	355	434	
G	335	356	385	463	
G	314	339	365	457	
G	287	317	345	411	
G	320	351	383	427	
G	299	338	366	457	
G	284	319	344	419	
G	336	353	383	440	
G	316	342	368	437	
G	293	308	321	400	
G	271	294	326	402	
G	283	313	348	407	
G	277	316	351	438	
G	269	295	329	399	
G	313	341	368	433	
G	333	358	390	455	
G	278	305	330	347	
G	277	315	347	433	
G	296	319	346	413	
G	319	343	363	434	
G	323	360	390	475	
G	295	308	329	412	
G	283	317	342	409	
MEAN	298	325	352	423	
S. D.	22.3	21.8	23.4	29.2	
N	25	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX DD  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT DATA (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
304-11 G	315	338	363	422	
307-13 G	282	306	325	404	
338-10 G	286	310	346	412	
340-10 G	383	402	437	531	
342-05 G	262	289	308	362	
343-09 NG	261	280	275	262	
351-11 G	317	352	392	458	
351-12 G	360	396	433	531	
356-14 G	313	338	359	374	
357-10 NG	298	310	321	306	
359-13 G	365	396	439	522	
367-08 G	265	293	330	397	
367-10 G	298	312	338	401	
368-10 G	284	310	326	386	
372-09 G	335	348	376	446	
373-08 G	264	281	302	373	
382-08 G	289	313	344	409	
382-09 G	291	298	320	361	
385-07 G	283	310	336	395	
404-07 G	265	287	318	358	
418-12 G	289	310	328	358	
421-12 G	303	342	369	446	
432-12 G	265	295	326	396	
439-11 G	294	316	348	412	
444-16 G	308	323	343	415	
445-13 G	333	347	378	442	
625-08 G	281	313	335	403	
MEAN	301	325	353	417	
S. D.	32.9	33.9	38.4	50.4	
N	25	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX DD  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	
G	334	369	399	453	
303-07					
NG	276	304	297	308	
316-12					
G	267	291	316	402	
326-09					
G	277	305	335	409	
328-08					
G	265	293	324	397	
330-01					
G	265	294	327	388	
344-09					
G	289	307	338	426	
346-15					
G	312	348	371	441	
350-11					
G	316	320	340	416	
360-08					
G	269	291	325	399	
361-13					
G	291	331	359	430	
374-09					
G	288	314	343	396	
375-12					
G	291	334	375	460	
393-14					
G	280	310	326	375	
398-10					
G	284	319	336	401	
402-10					
G	280	305	311	297	
410-12					
NG	292	323	351	408	
416-08					
G	308	316	344	418	
416-09					
G	313	333	353	418	
417-13					
G	349	371	401	477	
436-08					
G	343	363	407	483	
436-12					
G	266	284	308	384	
443-12					
G	339	349	392	474	
451-16					
G					
MEAN	297	322	351	422	
S. D.	27.1	26.3	29.4	31.8	
N	21	21	21	21	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX DD  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY				
	0	7	14	20	20
G	262	276	294	370	
G	315	351	375	427	
G	298	313	338	402	
G	321	342	367	449	
G	280	308	326	341	
G	288	303	322	399	
G	280	312	338	407	
G	316	346	360	410	
G	290	301	333	405	
NG	359	381	390	376	
G	274	311	330	398	
G	362	403	419	490	
G	272	291	320	386	
G	278	286	313	350	
G	299	332	361	432	
NG	321	334	344	308	
G	283	307	343	409	
NG	296	306	305	299	
G	324	358	385	456	
G	261	285	312	390	
G	304	333	355	425	
G	297	319	346	409	
G	241	260	275	285	
G	365	403	447	545	
G	298	317	348	407	
G	275	304	329	397	
MEAN	295	320	345	408	
S. D.	29.7	35.6	37.7	50.6	
N	23	23	23	23	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

(941)

SLI Study No. 3472.4

## APPENDIX EE

Individual F1 Gestation Body Weight Gain Data

APPENDIX EE  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
G	25	30	68	
G	32	31	71	
G	32	24	62	
G	35	32	33	
G	30	28	55	
G	28	31	73	
G	22	33	73	
G	23	30	53	
G	15	24	69	
G	21	31	49	
G	16	29	59	
G	19	40	78	
G	19	23	58	
G	14	30	62	
G	28	24	78	
G	8	27	40	
G	14	28	73	
G	26	16	58	
G	26	29	72	
G	36	27	59	
G	28	33	72	
NG	35	9	-28	
G	28	27	74	
G	17	20	63	
G	29	35	55	
MEAN	24	28	63	
S. D.	7.3	5.0	11.6	
N	24	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX EE  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
310-04 G	26	18	66	
312-08 G	23	27	67	
313-07 G	21	30	79	
314-12 G	21	29	78	
324-12 G	25	26	92	
329-11 G	30	28	66	
329-12 G	31	32	44	
354-10 G	39	28	91	
363-11 G	35	25	75	
377-09 G	17	30	57	
397-15 G	26	26	69	
406-04 G	15	13	79	
409-09 G	23	32	76	
411-10 G	30	35	59	
411-11 G	39	35	87	
419-14 G	26	34	70	
422-13 G	28	27	65	
428-15 G	25	32	65	
429-12 G	27	25	17	
429-14 G	38	32	86	
430-17 G	23	27	67	
431-11 G	24	20	71	
440-15 G	37	30	85	
447-17 G	13	21	83	
629-17 G	34	25	67	
MEAN	27	27	70	
S. D.	7.2	5.3	15.9	
N	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX EE  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
304-11 G	23	25	59	
307-13 G	24	19	79	
338-10 G	24	36	66	
340-10 G	19	35	94	
342-05 G	27	19	54	
343-09 NG	19	-5	-13	
351-11 G	35	40	66	
351-12 G	36	37	98	
356-14 G	25	21	15	
357-10 NG	12	11	-15	
359-13 G	31	43	83	
367-08 G	28	37	67	
367-10 G	14	26	63	
368-10 G	26	16	60	
372-09 G	13	28	70	
373-08 G	17	21	71	
382-08 G	24	31	65	
382-09 G	7	22	41	
385-07 G	27	26	59	
404-07 G	22	31	40	
418-12 G	21	18	30	
421-12 G	39	27	77	
432-12 G	30	31	70	
439-11 G	22	32	64	
444-16 G	15	20	72	
445-13 G	14	31	64	
625-08 G	32	22	68	
MEAN	24	28	64	
S. D.	7.8	7.5	18.1	
N	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN



APPENDIX EE  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
303-07 G	35	30	54	
316-12 NG	28	-7	11	
326-09 G	24	25	86	
328-08 G	28	30	74	
330-01 G	28	31	73	
344-09 G	29	33	61	
346-15 G	18	31	88	
350-11 G	36	23	70	
360-08 G	4	20	76	
361-13 G	22	34	74	
374-09 G	40	28	71	
375-12 G	26	29	53	
393-14 G	43	41	85	
398-10 G	30	16	49	
402-10 G	35	17	65	
410-12 NG	25	6	-14	
416-08 G	31	28	57	
416-09 G	8	28	74	
417-13 G	20	20	65	
436-08 G	22	30	76	
436-12 G	20	44	76	
443-12 G	18	24	76	
451-16 G	10	43	82	
MEAN	25	29	71	
S. D.	10.2	7.7	11.0	
N	21	21	21	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX EE  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 GESTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
308-14 G	14	18	76	
318-04 G	36	24	52	
319-10 G	15	25	64	
327-04 G	21	25	82	
331-08 G	28	18	15	
333-06 G	15	19	77	
336-08 G	32	26	69	
337-07 G	30	14	50	
358-09 G	11	32	72	
362-04 NG	22	9	-14	
364-13 G	37	19	68	
378-10 G	41	16	71	
394-11 G	19	29	66	
395-15 G	8	27	37	
396-16 G	33	29	71	
399-12 NG	13	10	-36	
405-08 G	24	36	66	
415-12 NG	10	-1	-6	
434-10 G	34	27	71	
435-13 G	24	27	78	
437-08 G	29	22	70	
438-15 G	22	27	63	
441-10 G	19	15	10	
448-04 G	38	44	98	
434-08 G	19	31	59	
627-11 G	29	25	68	

MEAN 25 25 63  
S. D. 9.3 7.1 19.9  
N 23 23 23

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

(947)

SLI Study No. 3472.4

APPENDIX FF

Individual F1 Lactation Body Weight Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPIERA, INC.

APPENDIX FF  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 LACTATION BODY WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
306-05		314	323	324	356	368
311-13		261	272	287	294	298
317-13		323	315	328	354	350
321-10		326	339	337	343	339
323-12		290	297	302	328	313
345-05		358	346	340	352	359
345-08		338	351	349	373	373
348-13		324	338	340	360	375
353-11		277	295	286	311	323
355-13		345	346	343	363	369
371-03		311	312	328	356	351
380-09		313	312	320	339	340
384-13		296	309	320	356	339
388-13		315	319	325	340	332
390-09		309	323	321	352	342
390-11		286	310	333	340	324
400-10		314	317	329	348	347
403-12		273	285	291	307	304
408-12		282	299	305	334	338
426-14		312	331	334	327	339
427-14		324	325	343	363	363
449-12		311	323	331	357	364
628-07		322	327	339	341	338
628-12		338	346	358	372	377
MEAN		311	319	326	343	344
S. D.		23.7	20.2	19.1	19.0	21.9
N		24	24	24	24	24

APPENDIX FF  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
310-04		269	284	288	298	306
312-08		293	287	297	319	269
313-07		340	339	338	371	355
314-12		365	365	377	393	366
324-12		332	351	354	382	356
329-11		326	342	342	366	357
329-12		355	369	370	394	376
354-10		337	351	357	365	370
363-11		326	337	335	348	340
377-09		349	352	362	377	377
397-15		324	328	335	357	358
406-04		311	305	315	333	326
409-09		306	318	312	338	335
411-10		311	303	323	351	353
411-11		311	329	334	373	348
419-14		295	295	306	343	341
422-13		328	341	332	354	348
423-12		217	215	216	233	236
428-15		342	341	346	387	365
429-12		314	324	329	347	350
429-14		316	338	356	378	351
430-17		308	329	330	348	330
431-11		325	338	352	371	362
440-15		368	375	374	406	391
447-17		312	315	313	344	339
629-17		286	311	321	339	323
MEAN		318	326	331	354	343
S. D.		31.1	32.8	32.9	34.8	32.8
N		26	26	26	26	26

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX FF  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 LACTATION BODY WEIGHT DATA (GRAMS)

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
304-11		335	345	342	368	378
307-13		301	299	315	326	339
338-10		316	329	331	349	345
340-10		406	416	430	446	420
342-05		278	298	312	332	329
351-11		353	373	377	375	377
351-12		401	401	420	431	420
356-14		SCHEDULED EUTHANASIA - TOTAL LITTER LOSS				
359-13		396	388	391	390	385
367-08		295	319	328	362	351
367-10		310	315	326	335	342
368-10		309	318	322	352	328
372-09		337	349	348	367	367
373-08		265	272	279	305	296
382-08		303	312	323	335	320
382-09		300	306	325	341	332
385-07		310	316	321	333	335
404-07		292	316	316	341	329
418-12		298	311	319	331	325
421-12		336	347	353	355	349
432-12		305	317	320	327	337
439-11		327	334	350	353	356
444-16		311	323	333	347	351
445-13		340	376	370	381	367
625-08		310	316	322	336	347
MEAN		322	333	341	355	351
S. D.		36.4	35.1	35.0	32.4	29.4
N		24	24	24	24	24

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX FF  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 LACTATION BODY WEIGHT DATA (GRAMS)

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
303-07		380	368	369	370	366
326-09		286	303	308	329	329
328-08		307	312	324	346	308
330-01		295	296	301	309	324
344-09		304	315	313	323	327
346-15		315	330	343	363	330
350-11		338	356	359	380	378
360-08		311	316	321	337	333
361-13		287	308	320	350	336
365-09		355	366	381	393	380
374-09		317	334	329	365	351
375-12		307	322	331	343	322
381-11		328	329	342	363	351
393-14		344	355	365	382	383
398-10		298	323	323	340	335
402-10		307	316	330	366	346
416-08		330	347	364	373	348
416-09		321	334	335	360	335
417-13		316	325	322	359	336
436-08		371	386	388	390	414
436-12		365	374	379	404	394
443-12		300	308	312	313	316
451-16		358	380	386	410	380
MEAN		323	335	341	359	349
S. D.		27.2	26.4	27.0	27.2	27.7
N		23	23	23	23	23

APPENDIX FF  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY	1	4	7	14	21
308-14		287	298	297	314	311
318-04		352	341	348	370	352
318-10		327	331	340	356	343
319-10		303	306	323	343	340
327-04		342	342	356	374	368
331-08		304	310	323	331	338
333-06		281	309	309	332	325
336-08		318	325	333	352	334
337-07		312	325	341	375	359
358-09		313	312	330	346	348
364-13		293	318	335	352	341
378-10		384	393	400	430	412
394-11		287	297	311	336	324
395-15		301	301	313	318	310
396-16		316	336	343	364	356
405-08		282	293	301	326	330
434-10		340	360	376	401	387
435-13		291	305	314	332	330
437-08		331	335	346	365	370
438-15		310	335	322	343	318
441-10		264	SCHEDULED EUTHANASIA -			
448-04		390	377	398	420	412
434-08		304	318	326	344	344
627-11		273	301	308	348	360
MEAN		313	325	334	355	348
S. D.		31.8	25.8	27.6	29.8	27.7
N		24	23	23	23	23

TOTAL LITTER LOSS



SLI Study No. 3472.4

APPENDIX GG

Individual F1 Lactation Body Weight Gain Data

APPENDIX GG  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
306-05		9	1	32	12
311-13		11	15	7	4
317-13		-8	13	26	-4
321-10		13	-2	6	-4
323-12		7	5	26	-15
345-05		-12	-6	12	7
345-08		13	-2	0	24
348-13		14	2	20	15
353-11		18	-9	25	12
355-13		1	-3	20	6
371-03		1	16	28	-5
380-09		-1	8	19	1
384-13		13	11	36	-17
388-13		4	6	15	-8
390-09		14	-2	31	-10
390-11		24	23	7	-16
400-10		3	12	19	-1
403-12		12	6	16	-3
408-12		17	6	29	4
426-14		19	3	-7	12
427-14		1	18	20	0
449-12		12	8	26	7
628-07		5	12	2	-3
628-12		8	12	14	5
MEAN		8	6	18	1
S. D.		8.5	8.1	11.1	10.2
N		24	24	24	24

APPENDIX GG  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
310-04		15	4	10	8
312-08		-6	10	22	-50
313-07		-1	-1	33	-16
314-12		0	12	16	-27
324-12		19	3	28	-26
329-11		16	0	24	-9
329-12		14	1	24	-18
354-10		14	6	8	5
363-11		11	-2	13	-8
377-09		3	10	15	0
397-15		4	7	22	1
406-04		-6	10	18	-7
409-09		12	-6	26	-3
411-10		-8	20	28	2
411-11		18	5	39	-25
419-14		0	11	37	-2
422-13		13	-9	22	-6
423-12		-2	1	17	3
428-15		-1	5	41	-22
429-12		10	5	18	3
429-14		22	18	22	-27
430-17		21	1	18	-18
431-11		13	14	19	-9
440-15		7	-1	32	-15
447-17		3	-2	31	-5
629-17		25	10	18	-16
MEAN		8	5	23	-11
S. D.		9.5	7.0	8.6	13.3
N		26	26	26	26

APPENDIX GG  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
304-11	10	-3	26	10	
307-13	-2	16	11	13	
338-10	13	2	18	-4	
340-10	10	14	16	-26	
342-05	20	14	20	-3	
351-11	20	4	-2	2	
351-12	0	19	11	-11	
356-14		SCHEDULED EUTHANASIA - TOTAL LITTER LOSS			
359-13	-8	3	-1	-5	
367-08	24	9	34	-11	
367-10	5	11	9	7	
368-10	9	4	30	-24	
372-09	12	-1	19	0	
373-08	7	7	26	-9	
382-08	9	11	12	-15	
382-09	6	19	16	-9	
385-07	6	5	12	2	
404-07	24	0	25	-12	
418-12	13	8	12	-6	
421-12	11	6	2	-6	
432-12	12	3	7	10	
439-11	7	16	3	3	
444-16	12	10	14	4	
445-13	36	-6	11	-14	
625-08	6	6	14	11	
MEAN	11	7	14	-4	
S. D.	9.2	6.8	9.3	10.5	
N	24	24	24	24	

APPENDIX GG  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
303-07	-12	1	1	1	-4
326-09	17	5	5	21	0
328-08	5	12	12	22	-38
330-01	1	5	5	8	15
344-09	11	-2	10	10	4
346-15	15	13	13	20	-33
350-11	18	3	3	21	-2
360-08	5	5	5	16	-4
361-13	21	12	12	30	-14
365-09	11	15	15	12	-13
374-09	17	-5	36	36	-14
375-12	15	9	9	12	-21
381-11	1	13	13	21	-12
393-14	11	10	10	17	1
398-10	25	0	0	17	-5
402-10	9	14	14	36	-20
416-08	17	17	17	9	-25
416-09	13	1	1	25	-25
417-13	9	-3	-3	37	-23
436-08	15	2	2	2	24
436-12	9	5	5	25	-10
443-12	8	4	4	1	3
451-16	22	6	6	24	-30
MEAN	11	6	6	18	-11
S.D.	8.1	6.2	6.2	10.6	15.2
N	23	23	23	23	23

APPENDIX GG  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 LACTATION BODY WEIGHT GAIN DATA (GRAMS)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	DAY	1-4	4-7	7-14	14-21
308-14		11	-1	17	-3
318-04		-11	7	22	-18
318-10		4	9	16	-13
319-10		3	17	20	-3
327-04		0	14	18	-6
331-08		6	13	8	7
333-06		28	0	23	-7
336-08		7	8	19	-18
337-07		13	16	34	-16
358-09		-1	18	16	2
364-13		25	17	17	-11
378-10		9	7	30	-18
394-11		10	14	25	-12
395-15		0	12	5	-8
396-16		20	7	21	-8
405-08		11	8	25	4
434-10		20	16	25	-14
435-13		14	9	18	-2
437-08		4	11	19	5
438-15		25	-13	21	-25
441-10					
448-04		-13	21	22	-8
434-08		14	8	18	0
627-11		28	7	40	12
MEAN		10	10	21	-7
S. D.		11.2	7.4	7.4	9.3
N		23	23	23	23

SCHEDULED EUTHANASIA - TOTAL LITTER LOSS

SLI Study No. 3472.4

APPENDIX HH

Individual F1 Parental Food Consumption Data  
(grams/animal/day)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

PAGE 1

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
306-01 M				23	27	23	27	30	29	30	29	29	30	31	31	31	28	31	28	31
306-02 M				21	23	26	26	26	26	26	26	26	26	26	26	26	26	26	26	28
311-06 M				22	26	29	29	29	29	29	29	29	29	29	29	29	29	29	29	27
317-04 M				18	23	23	23	27	29	29	29	29	29	29	29	29	29	29	29	a
321-01 M		16		22	26	26	28	28	28	27	27	27	27	27	27	27	27	27	27	31
321-04 M		17		23	26	26	26	28	28	28	28	28	28	28	28	28	28	28	28	30
323-05 M				21	24	24	24	27	29	29	29	29	29	29	29	29	29	29	29	42
323-06 M				21	23	23	23	26	27	27	27	27	27	27	27	27	27	27	27	31
345-01 M				25	29	29	29	33	34	34	34	34	34	34	34	34	34	34	34	31
348-04 M		22		26	27	27	27	30	30	30	30	30	30	30	30	30	30	30	30	24
353-06 M				23	27	27	27	31	31	31	31	31	31	31	31	31	31	31	31	29
355-05 M				20	23	23	23	26	27	27	27	27	27	27	27	27	27	27	27	27
371-01 M				24	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	30
380-04 M				24	27	27	27	31	34	34	34	34	34	34	34	34	34	34	34	34
384-05 M				24	28	28	28	30	31	31	31	31	31	31	31	31	31	31	31	33
388-03 M		19		24	27	27	27	30	32	32	32	32	32	32	32	32	32	32	32	34
390-04 M				22	25	25	25	28	28	28	28	28	28	28	28	28	28	28	28	25
400-06 M				23	26	26	26	30	29	29	29	29	29	29	29	29	29	29	29	29
355-02 M				23	26	26	26	31	32	32	32	32	32	32	32	32	32	32	32	33
403-06 M		17		23	27	27	27	30	31	31	31	31	31	31	31	31	31	31	31	30
408-03 M				20	23	23	23	26	29	29	29	29	29	29	29	29	29	29	29	30
420-02 M				23	27	27	27	30	33	33	33	33	33	33	33	33	33	33	33	28
425-07 M				23	25	25	25	27	27	27	27	27	27	27	27	27	27	27	27	32
426-05 M		18		22	25	25	25	28	28	28	28	28	28	28	28	28	28	28	28	27
427-02 M				22	26	26	26	29	29	29	29	29	29	29	29	29	29	29	29	28
449-05 M				24	28	28	28	33	33	33	33	33	33	33	33	33	33	33	33	32
450-06 M		21		27	31	31	31	36	37	37	37	37	37	37	37	37	37	37	37	37
628-04 M		21		27	30	30	30	34	33	33	33	33	33	33	33	33	33	33	33	33
MEAN		19		23	26	26	26	29	30	30	30	30	30	30	30	30	30	30	30	30
S. D.		2.2		2.1	2.0	2.0	2.0	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.4	2.4	3.7	3.7
N		8		28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
 a ELIMINATED DUE TO SPILLED FEED.



APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17
306-01 M	32	31	31	31	31	29
306-02 M	28	27	26	26	26	26
311-06 M	27	28	a	27	27	25
317-04 M	32	29	30	29	29	30
321-01 M	31	30	28	27	27	27
321-04 M	31	30	28	29	29	29
323-05 M	28	27	27	27	26	29
323-06 M	28	29	29	28	28	28
345-01 M	33	33	30	30	30	31
348-04 M	29	29	26	26	26	26
353-06 M	30	29	30	28	28	28
355-05 M	27	27	27	26	26	25
371-01 M	29	29	30	28	28	28
380-04 M	34	34	33	31	31	31
384-05 M	32	32	31	29	29	30
388-03 M	33	33	33	33	33	32
390-04 M	25	25	28	27	26	26
400-06 M	29	27	29	29	26	27
355-02 M	32	33	33	32	32	b
403-06 M	31	32	30	30	30	31
408-03 M	28	27	27	27	27	27
420-02 M	31	30	a	30	30	26
425-07 M	28	27	27	25	25	26
426-05 M	29	28	29	28	28	28
427-02 M	28	27	28	26	26	26
449-05 M	33	33	a	31	31	33
450-06 M	37	36	37	37	37	36
628-04 M	32	31	33	33	31	31
MEAN	30	30	30	29	29	29
S. D.	2.6	2.7	2.6	2.7	2.7	2.6
N	28	28	25	28	28	27

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14).

a ANIMAL WAS MATING.

b ELIMINATED DUE TO SPILLED FEED.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
310-01 M	16	20	23	25	27	29	30	30	24	23	23	23	23	25	25	25	24	24
312-03 M		23	26	30	27	29	30	29	27	29	29	29	30	30	30	30	29	29
312-06 M		22	26	30	30	30	29	29	30	29	29	29	32	a	a	30	30	30
313-03 M		23	26	29	29	29	29	29	29	29	29	29	29	30	30	30	30	30
314-03 M	21	28	31	33	32	31	31	31	32	31	31	31	32	35	35	33	33	33
324-02 M	19	24	27	30	31	29	29	28	31	31	29	29	31	32	32	32	32	32
325-08 M	17	23	25	29	29	29	29	28	28	29	29	29	29	29	29	30	30	30
329-05 M		23	28	31	32	32	31	32	32	32	32	32	32	32	32	32	32	32
354-05 M		21	26	29	30	30	29	29	30	30	30	30	30	30	30	30	30	30
363-06 M		23	27	32	31	31	31	31	31	31	31	31	31	34	34	34	34	34
377-05 M		25	28	32	32	33	32	32	33	33	33	33	33	33	33	33	33	33
397-02 M		23	24	27	27	27	29	29	27	29	29	27	27	31	31	32	32	32
397-06 M		25	29	32	32	30	30	30	30	30	30	32	32	32	32	33	33	33
406-07 M		23	27	31	31	32	31	31	32	32	31	31	31	32	32	32	32	32
409-03 M		20	23	25	25	27	26	26	27	26	26	28	28	28	28	28	26	26
411-01 M	18	23	26	28	28	29	28	29	29	29	28	29	29	31	31	31	31	31
413-04 M		23	26	29	29	28	28	28	28	28	28	27	27	27	27	27	27	27
419-10 M		25	29	33	33	33	33	33	33	33	33	33	33	33	35	33	33	33
422-04 M		20	23	25	25	25	26	26	25	26	26	26	26	26	27	25	25	25
423-03 M	13	17	20	20	21	21	20	21	21	21	21	21	20	20	b	25	25	FOUND DEAD
428-03 M	21	26	30	33	34	34	33	34	34	35	35	34	34	35	35	34	34	34
428-09 M	22	28	32	33	33	33	32	32	33	32	32	31	31	34	34	34	34	34
429-06 M	19	25	28	31	30	28	28	27	30	28	28	27	27	27	27	27	27	27
430-06 M		23	24	27	27	27	27	27	30	27	26	28	28	28	28	28	28	28
431-03 M	18	22	25	29	30	30	29	30	30	30	32	32	32	30	30	30	30	30
440-04 M	18	24	27	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31
447-02 M	19	25	28	30	30	30	30	30	30	30	30	30	30	29	29	29	29	29
629-07 M	17	22	26	29	29	29	29	28	29	29	28	28	28	29	29	29	26	26
MEAN	18	23	27	29	30	30	29	29	30	29	29	29	29	31	31	30	30	30
S. D.	2.3	2.4	2.7	2.9	2.9	2.9	3.0	3.0	2.9	2.8	2.8	2.9	2.9	2.8	2.8	3.0	3.0	3.0
N	13	28	28	28	28	28	28	28	28	28	28	28	28	26	26	27	27	27

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.

a ELIMINATED DUE TO SPILLED FEED.

b ELIMINATED DUE TO TECHNICAL ERROR.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	14 TO	15	15 TO	16	16 TO	17
310-01 M	23	22	22	23	22	22	22	22	22	22
312-03 M	28	28	28	28	26	26	26	26	26	26
312-06 M	32	32	32	33	31	31	31	31	31	31
313-03 M	31	30	30	29	28	28	28	28	28	28
314-03 M	33	32	32	a	30	30	30	30	30	30
324-02 M	33	32	32	33	32	32	32	31	31	31
325-08 M	32	30	30	31	28	28	28	28	28	28
329-05 M	33	32	32	32	31	31	31	31	31	31
354-05 M	29	29	29	29	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD
363-06 M	34	32	32	31	32	32	32	32	32	32
377-05 M	33	32	32	a	32	32	32	32	32	32
397-02 M	31	28	28	26	25	25	25	25	25	25
397-06 M	34	31	31	33	32	32	32	30	30	30
406-07 M	32	30	30	30	31	31	31	30	30	30
409-03 M	27	25	25	26	26	26	26	26	26	26
411-01 M	28	28	28	28	28	28	28	28	28	28
413-04 M	28	27	27	28	28	28	28	27	27	27
419-10 M	34	33	33	33	32	32	32	32	32	32
422-04 M	27	26	26	26	26	26	26	26	26	26
423-03 M	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD	FOUND DEAD
428-03 M	33	33	33	33	31	31	31	31	31	31
428-09 M	33	32	32	30	31	31	31	29	29	29
429-06 M	28	27	27	a	27	27	27	28	28	28
430-06 M	28	27	27	26	26	26	26	25	25	25
431-03 M	30	29	29	25	25	25	25	25	25	25
440-04 M	33	31	31	a	30	30	30	31	31	31
447-02 M	30	30	30	29	28	28	28	28	28	28
629-07 M	27	26	26	27	27	27	27	27	27	27
MEAN	30	29	29	29	29	29	29	29	29	29
S. D.	2.8	2.7	2.7	2.8	2.7	2.7	2.7	3.8	3.8	3.8
N	27	27	27	23	26	26	26	26	26	26

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14).  
 a ANIMAL WAS MATING.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
304-05 M	20	25	28	29	29	27	27	27	27	27	27	27	27	29	30	30	29	29	29
307-02 M	18	23	25	27	27	26	26	26	26	26	26	26	26	26	27	27	26	26	26
332-02 M		26	30	30	32	34	33	33	33	33	33	33	33	33	34	34	33	33	33
338-01 M		27	31	31	33	32	33	33	33	33	33	33	33	33	35	35	35	35	35
340-01 M	18	22	26	28	28	28	28	28	28	28	28	28	28	28	29	29	27	27	27
340-07 M	23	27	30	30	31	30	30	29	29	29	29	29	29	29	29	29	30	30	30
342-03 M		23	28	31	32	31	31	31	31	31	31	31	31	32	35	33	33	33	33
343-03 M	17	21	24	25	25	26	26	26	26	26	26	26	26	26	28	28	26	26	26
351-08 M	21	27	32	36	37	37	37	37	37	37	37	37	37	34	36	36	37	37	37
356-01 M	21	25	28	31	31	31	31	31	31	31	31	31	31	30	32	32	32	32	32
356-02 M	23	29	31	33	33	32	32	32	32	32	32	32	31	31	31	30	30	30	30
357-04 M		23	27	30	30	30	30	30	30	30	30	30	30	30	29	29	28	28	28
359-08 M	18	22	26	29	29	30	30	30	30	30	30	30	30	28	29	29	29	29	29
367-03 M	19	24	27	32	32	31	31	31	31	31	31	31	31	30	33	32	32	32	32
368-04 M	19	24	27	30	30	30	30	30	30	30	30	30	30	30	26	26	28	28	28
372-04 M	18	23	28	31	31	33	33	33	33	33	33	33	33	33	35	35	32	32	32
373-04 M	21	27	31	34	34	32	32	32	32	32	31	31	31	31	32	32	32	32	32
373-06 M	21	27	31	35	35	33	33	33	33	33	33	33	32	31	31	31	31	31	31
382-03 M	18	23	25	28	28	28	28	28	28	28	28	28	28	28	27	27	29	29	29
385-04 M	19	24	28	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
404-03 M		23	26	29	29	27	27	27	27	27	27	27	27	25	26	26	21	21	21
418-05 M		23	26	27	27	27	27	27	27	27	27	27	27	25	26	26	21	21	21
421-03 M	20	23	26	29	29	31	31	31	31	31	31	31	30	30	28	28	28	28	28
432-04 M	18	22	24	27	27	27	27	27	27	27	27	27	28	29	29	29	31	31	31
439-02 M	20	23	26	27	27	27	27	27	27	27	27	27	28	29	29	29	29	29	29
444-01 M	20	24	27	29	29	29	29	29	29	29	29	29	27	27	27	28	24	24	24
445-03 M		24	28	31	31	31	31	31	31	31	31	31	31	32	32	32	31	31	31
625-02 M		24	27	30	30	30	30	30	30	30	30	30	29	30	30	30	28	28	28
MEAN	19	24	28	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
S. D.	1.7	2.0	2.2	2.5	2.5	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4	2.8	2.8	3.2	3.2	3.2
N	20	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17
304-05 M	29	27	28	27	27	27
307-02 M	27	26	26	27	27	26
332-02 M	33	32	32	31	31	30
338-01 M	35	33	32	32	32	32
340-01 M	28	27	28	27	30	30
340-07 M	28	28	29	30	30	30
342-03 M	32	32	a	31	31	30
343-03 M	28	26	26	26	26	26
351-08 M	37	37	35	34	34	34
356-01 M	30	31	32	29	29	27
356-02 M	30	30	30	29	29	28
357-04 M	29	28	28	29	28	28
359-08 M	31	30	31	29	28	28
367-03 M	31	31	30	31	29	29
368-04 M	28	27	28	26	27	27
372-04 M	31	29	34	34	32	32
373-04 M	31	31	33	31	29	29
373-06 M	32	32	29	30	30	30
382-03 M	27	26	27	27	26	26
385-04 M	29	29	28	29	28	28
404-03 M	24	25	25	26	25	25
418-05 M	28	28	28	27	27	27
421-03 M	31	31	32	30	32	32
432-04 M	28	28	29	28	26	26
439-02 M	29	30	29	27	27	27
444-01 M	25	26	26	26	26	26
445-03 M	31	31	30	31	31	30
625-02 M	28	26	28	28	28	27
MEAN	30	29	29	29	29	29
S. D.	2.8	2.7	2.5	2.3	2.3	2.3
N	28	28	27	28	28	28

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14).  
a ANIMAL WAS MATING.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
303-03 M				24	27	27	30	29	30	29	30	29	29	30	31	31	31	31	29	29
316-02 M	18			24	27	27	29	29	29	29	30	30	30	31	31	31	31	31	31	31
326-05 M	19			23	29	29	31	31	31	32	32	32	30	30	32	32	32	32	30	30
328-04 M				21	27	27	28	29	29	29	29	29	29	29	29	30	30	30	30	30
344-05 M	18			24	27	27	29	29	29	30	34	31	31	31	31	31	31	31	28	28
346-05 M				24	29	29	31	31	31	32	32	31	31	32	32	33	33	33	31	31
346-09 M				24	28	28	30	30	30	30	29	29	29	28	28	29	29	27	27	27
347-07 M	20			26	29	29	32	32	32	32	30	30	30	30	30	31	31	32	32	32
350-09 M	18			24	28	28	30	30	30	31	30	30	31	31	31	31	31	31	31	31
360-04 M				23	27	27	29	29	29	31	31	29	29	29	29	29	29	29	28	28
361-04 M				26	30	30	33	33	33	33	33	31	31	32	32	32	32	31	31	31
365-05 M	22			26	30	30	32	32	32	32	32	30	30	32	32	32	32	32	31	31
374-04 M				23	27	27	30	27	30	30	30	30	30	30	a	a	a	27	27	27
375-02 M	20			25	28	28	29	29	29	31	31	31	29	30	30	29	29	30	30	30
381-02 M	19			24	27	27	27	27	27	26	26	26	26	26	27	27	27	26	26	26
389-04 M				23	27	27	29	29	29	29	29	31	31	28	28	28	28	28	28	28
393-06 M				24	30	30	32	32	32	33	33	29	29	31	34	35	35	30	33	33
398-07 M				24	28	28	29	29	29	29	29	29	29	30	30	31	31	31	31	31
402-06 M	21			27	30	30	33	33	33	32	32	33	33	32	32	30	30	29	29	29
410-04 M	21			26	29	29	30	30	30	31	30	30	30	30	30	32	32	30	30	30
414-06 M	19			24	28	28	30	30	30	29	29	29	29	29	29	29	28	28	28	28
416-01 M				23	28	28	28	28	28	28	28	29	29	29	29	29	29	29	29	29
416-03 M				22	26	26	27	27	27	27	28	28	28	28	28	28	28	27	27	27
417-04 M				23	27	27	29	29	29	28	28	28	28	28	28	29	29	29	30	30
389-06 M				22	24	24	24	24	24	24	26	26	26	26	26	26	24	24	24	24
436-02 M	20			25	29	29	32	32	32	34	34	34	34	33	33	33	33	33	30	30
443-05 M	18			24	26	26	28	28	28	30	30	28	28	28	28	28	28	28	28	28
451-01 M	19			23	26	26	29	29	29	29	29	29	29	29	31	31	32	32	31	31
MEAN	20			24	28	28	30	30	30	30	30	30	30	30	30	30	30	30	29	29
S. D.	1.3			1.3	1.5	1.5	1.6	1.6	1.6	1.9	1.9	1.9	2.0	2.0	1.9	2.2	2.2	2.1	2.1	2.1
N	14			28	28	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
 a ELIMINATED DUE TO SPILLED FEED.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

WEEK	11 TO	12	12 TO	13	14 TO	15	15 TO	16	16 TO	17
303-03 M	26	27	27	28	29	29	29	27	25	28
316-02 M	31	29	30	30	30	30	30	30	28	27
326-05 M	31	30	30	31	32	32	32	30	30	30
328-04 M	29	30	30	31	31	a	a	a	a	a
344-05 M	31	a	32	32	32	32	32	31	31	31
346-05 M	32	27	27	27	27	25	25	27	27	27
346-09 M	27	30	30	32	32	32	32	31	31	31
347-07 M	32	30	30	28	28	28	28	30	26	26
350-09 M	31	32	26	27	26	26	26	25	25	25
360-04 M	28	30	30	30	30	29	29	29	29	29
361-04 M	32	29	30	30	31	31	31	30	30	30
365-05 M	31	26	26	a	a	a	a	29	28	28
374-04 M	35	31	32	b	b	29	29	31	31	31
375-02 M	31	26	26	25	25	26	26	26	26	26
381-02 M	27	27	27	b	b	27	27	26	26	26
389-04 M	19	27	27	33	32	32	32	30	30	30
393-06 M	33	30	30	b	b	30	30	29	29	29
398-07 M	30	29	29	28	28	28	28	28	28	28
402-06 M	30	30	30	28	28	28	28	28	28	28
410-04 M	30	30	30	b	b	27	27	27	27	27
414-06 M	28	26	26	26	26	26	26	26	26	26
416-01 M	27	29	28	28	28	28	28	26	26	26
416-03 M	27	28	28	30	28	28	28	27	27	27
417-04 M	30	28	28	23	23	23	23	24	24	24
389-06 M	24	29	29	b	b	31	31	31	31	31
436-02 M	30	27	27	28	28	27	27	26	26	26
443-05 M	28	29	29	b	b	31	31	27	27	27
451-01 M	30	29	29	29	29	29	29	31	31	32
MEAN	29	29	29	29	29	29	29	28	28	28
S. D.	3.0	2.2	2.2	2.6	2.6	2.3	2.3	2.2	2.2	2.2
N	28	27	27	21	21	27	27	27	27	27

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14).  
 a ELIMINATED DUE TO SPILLED FEED.  
 b ANIMAL WAS MATING.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
308-02 M	16		20	22	25	26	26	26	26	26	26	26	26	26	25	25	25	25
318-03 M	19		24	29	31	32	32	32	32	32	32	32	32	32	32	32	32	31
319-07 M			21	25	28	29	27	27	27	27	27	27	27	27	a	26	26	26
327-02 M			25	28	32	33	33	33	33	33	33	33	33	33	32	31	31	31
331-06 M			21	25	28	28	28	28	28	28	28	28	28	28	27	26	24	24
333-04 M			23	25	28	28	28	28	28	28	28	28	28	28	25	23	23	23
336-02 M			25	29	32	30	30	30	30	30	30	30	30	30	31	30	30	30
337-04 M	21		27	31	35	34	34	33	33	33	33	33	33	33	33	31	31	31
352-08 M	19		25	27	29	29	28	28	28	28	28	28	28	28	29	28	28	28
358-04 M			21	26	28	30	30	30	30	30	30	30	30	30	30	30	30	30
362-02 M	19		24	27	29	30	30	30	30	30	30	30	30	30	31	29	29	29
364-03 M			20	23	26	28	28	27	27	27	27	27	27	27	30	28	28	28
378-08 M	18		24	27	30	30	30	30	30	30	30	30	30	30	31	28	28	28
394-05 M	18		22	25	28	27	27	27	27	27	27	27	27	27	27	25	25	25
395-06 M			22	25	28	28	28	28	28	28	28	28	28	28	26	26	26	26
396-01 M			20	24	26	27	27	27	27	27	27	27	27	27	29	29	27	27
399-02 M	20		26	29	32	32	32	32	32	32	32	32	32	32	30	30	30	31
405-05 M	18		22	25	27	27	27	27	27	27	27	27	27	27	27	27	27	27
415-02 M	20		25	28	31	31	31	31	31	31	31	31	31	31	29	27	27	27
434-02 M			26	30	36	36	36	36	36	36	36	36	36	36	35	35	33	33
435-03 M	16		21	26	30	31	31	31	31	31	31	31	31	31	31	31	31	31
437-03 M			28	33	35	37	37	37	37	37	37	37	37	37	38	38	38	38
437-05 M			27	30	33	33	33	33	33	33	33	33	33	33	31	30	30	30
438-02 M			24	28	31	32	32	32	32	32	32	32	32	32	32	32	32	a
441-02 M			24	26	29	31	31	31	31	31	31	31	31	31	30	30	30	30
448-02 M	23		28	34	33	34	34	34	34	34	34	34	34	34	34	34	34	35
626-02 M			26	30	31	31	31	31	31	31	31	31	31	31	31	31	31	30
627-07 M	19		25	27	29	29	28	28	28	28	28	28	28	28	29	29	26	26
MEAN	19		24	27	30	31	30	30	30	30	30	30	30	30	30	30	29	29
S. D.	1.7		2.5	2.8	2.8	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.9	3.0	3.0	3.2	3.2	3.2
N	13		28	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
a ELIMINATED DUE TO SPILLED FEED.



APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17
308-02 M	25	26		25	25	24
318-03 M	31	31		31	31	31
319-07 M	25	24		25	25	25
327-02 M	26	29		30	30	30
331-06 M	25	25		26	25	26
333-04 M	22	23		25	24	26
336-02 M	31	29		31	29	30
337-04 M	32	32		29	29	31
352-08 M	29	29		a	26	30
358-04 M	30	27		29	28	28
362-02 M	29	29		29	29	27
364-03 M	29	27		29	28	29
378-08 M	28	27		33	b	30
394-05 M	26	27		28	26	25
395-06 M	26	26		27	26	26
396-01 M	27	27		a	27	24
399-02 M	32	32		33	32	31
405-05 M	26	26		27	27	26
415-02 M	27	26		27	28	27
434-02 M	32	31		30	31	31
435-03 M	30	29		31	30	30
437-03 M	36	36		38	36	32
437-05 M	31	31		33	32	30
438-02 M	30	29		30	29	31
441-02 M	30	31		30	29	30
448-02 M	35	35		34	35	34
626-02 M	30	30		30	30	29
627-07 M	27	25		25	25	24
MEAN	29	29		30	29	28
S. D.	3.2	3.1		3.2	3.0	2.8
N	28	28		26	27	28

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14).

a ANIMAL WAS MATING.

b ELIMINATED DUE TO SPILLED FEED.

APPENDIX HH

GROUP 1: 0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
306-05 F			18	19	19	19	19	19	19	19	19	19	17	20	20	20	17	
311-13 F			17	18	18	18	18	18	18	18	18	18	18	18	19	19	20	
317-13 F			16	18	18	18	18	18	19	19	19	19	17	18	18	20	20	
321-10 F	16		19	20	22	20	22	21	21	21	19	20	20	19	19	19	19	
323-12 F			17	18	19	19	19	20	20	20	19	19	19	19	19	19	18	
345-05 F			22	23	26	23	26	25	25	25	25	25	25	25	a	23	23	
345-08 F			20	21	21	21	23	22	22	21	21	21	23	23	23	21	21	
348-13 F	19		20	20	20	20	20	20	20	20	20	20	19	21	21	22	22	
353-11 F			18	19	19	19	19	20	20	20	20	20	22	22	21	21	21	
355-13 F			20	21	23	23	23	23	23	23	23	23	23	23	23	24	24	
371-03 F			19	22	20	20	20	20	20	20	20	22	22	22	20	19	19	
380-09 F			20	20	21	21	21	21	22	22	21	21	21	21	21	20	20	
384-13 F	18		20	21	21	21	21	21	21	21	20	20	21	22	22	22	20	
388-13 F	16		18	18	18	18	20	20	20	20	19	20	20	20	21	19	19	
390-09 F			18	19	19	19	20	20	20	20	20	20	20	20	21	20	20	
390-11 F			19	21	21	21	21	21	20	20	20	20	20	20	25	21	21	
400-10 F			19	20	20	20	22	22	22	21	21	21	21	21	22	22	20	
403-12 F	15		18	18	18	18	19	19	18	18	20	20	20	20	19	20	20	
408-12 F			20	20	20	20	20	20	18	18	19	19	17	17	19	19	19	
420-05 F			20	20	20	20	21	21	20	20	20	20	20	20	21	21	19	
426-14 F	15		19	20	20	20	21	21	20	20	21	21	20	20	19	19	22	
427-14 F			19	20	20	20	21	21	20	20	21	21	22	22	21	21	21	
449-11 F			21	20	20	20	21	21	20	20	21	21	21	21	21	22	22	
449-12 F			20	24	22	22	22	22	20	20	20	22	22	22	22	22	22	
450-13 F	17		22	22	26	26	26	26	26	26	25	25	25	25	26	26	24	
628-07 F	17		21	20	22	22	22	22	22	22	19	22	22	22	21	21	21	
628-12 F	18		20	19	22	22	22	22	21	21	21	21	21	21	22	22	23	
MEAN	17		19	20	20	21	21	21	21	21	20	20	21	21	21	21	21	
S.D.	1.4		1.5	1.5	1.5	1.9	1.9	1.9	1.7	1.7	1.7	2.0	2.0	1.9	1.9	1.8	1.8	
N	9		27	27	27	27	27	27	27	27	27	27	27	26	26	27	27	

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
a ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 1: 0 MG/KG/DAY

-----  
WEEK 11 TO 12 12 TO 13 14 TO 15 15 TO 16 16 TO 17 17 TO 18  
-----

306-05 F	22						21
311-13 F	18						19
317-13 F	18						19
321-10 F	19						20
323-12 F	17						19
345-05 F	22						22
345-08 F	21						21
348-13 F	23						25
353-11 F	23						19
355-13 F	26						23
371-03 F	22						21
380-09 F	21						22
384-13 F	21						19
388-13 F	22						23
390-09 F	21						21
390-11 F	23						22
400-10 F	21						21
403-12 F	20						20
408-12 F	23						24
420-05 F	21		a	18		19	17
426-14 F	21						
427-14 F	22						
449-11 F	22						21
449-12 F	22						20
450-13 F	26		a	25		19	22
628-07 F	21						23
628-12 F	26						23

MEAN	22		22		19		19
S.D.	2.2		--		--		--
N	27		2		2		2

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NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX II. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.  
-----

a ANIMAL WAS MATING.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 2: 1.0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
310-04 F	15	18	17	18	18	18	18	18	18	18	20	20	19	20	20	21	21	21
312-08 F		17	18	18	18	18	18	18	18	18	20	20	20	19	20	20	20	20
313-07 F		18	18	18	18	18	18	18	18	18	20	20	20	20	20	20	20	20
314-12 F	17	21	22	22	22	22	22	22	22	22	22	22	22	22	23	23	23	23
324-12 F	19	22	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
325-13 F	17	19	19	19	19	19	19	19	19	18	18	19	18	18	18	17	17	17
329-11 F		22	21	22	22	22	22	22	22	21	20	20	20	20	20	21	21	21
329-12 F		22	22	22	22	22	22	22	22	23	23	23	23	24	24	22	22	22
354-10 F		19	20	20	20	20	20	20	20	21	21	21	21	21	21	21	21	21
363-11 F		20	20	20	20	20	20	20	20	21	21	21	22	22	22	24	24	24
377-09 F		21	22	22	22	22	22	22	22	20	20	20	20	20	21	20	20	20
397-15 F		20	21	21	21	21	21	21	21	22	22	23	23	25	25	25	25	25
406-04 F		18	19	19	19	19	19	19	19	22	21	21	21	20	20	22	22	22
409-09 F		19	19	19	19	19	19	19	19	18	19	19	19	20	20	25	25	25
411-10 F	a	17	17	17	17	17	17	17	17	24	24	25	a	26	17	17	17	17
411-11 F	16	19	19	19	19	19	19	19	19	19	19	20	19	21	19	29	29	29
413-09 F		20	20	20	20	20	20	20	20	20	18	18	19	19	19	17	17	17
419-14 F		18	18	18	18	18	18	18	18	20	20	20	19	19	20	24	24	24
422-13 F		21	21	21	21	21	21	21	21	24	23	23	22	22	22	26	26	26
423-12 F	12	15	15	15	15	15	15	15	15	14	15	15	14	15	15	21	21	21
428-15 F	19	23	23	23	23	23	23	23	23	24	24	25	a	32	12	12	12	12
429-12 F	18	20	20	20	20	20	20	20	20	19	19	19	19	20	20	20	20	20
429-14 F	19	21	21	21	21	21	21	21	21	19	19	19	18	19	19	19	19	19
430-17 F		21	21	21	21	21	21	21	21	20	20	20	20	20	22	22	22	22
431-11 F	17	21	22	22	22	22	22	22	22	24	24	22	23	23	22	22	22	22
440-15 F	19	23	22	22	22	22	22	22	22	24	24	23	23	24	24	25	25	25
447-17 F	15	17	17	17	17	17	17	17	17	18	18	17	a	20	20	18	18	18
629-17 F	15	18	19	19	19	19	19	19	19	19	19	19	19	20	20	19	19	19
MEAN	17	20	20	20	20	20	21	21	21	21	21	21	20	21	21	21	21	21
S. D.	2.1	2.0	1.8	1.8	1.8	2.2	2.2	2.4	2.4	2.4	2.3	2.3	2.3	3.0	3.0	3.4	3.4	3.4
N	13	28	28	28	28	28	28	28	28	28	28	28	25	28	28	28	28	28

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
a ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 2: 1.0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18
310-04 F	25						18
312-08 F	20						22
313-07 F	22						23
314-12 F	22						22
324-12 F	21						20
325-13 F	18		a	17	16	16	16
329-11 F	21						20
329-12 F	24						22
354-10 F	b						25
363-11 F	25						22
377-09 F	23						25
397-15 F	26						26
406-04 F	23						26
409-09 F	20						20
411-10 F	23						24
411-11 F	18						23
413-09 F	28		a	18	17	17	19
419-14 F	23						20
422-13 F	18						21
423-12 F	15		a	18			15
428-15 F	5						20
429-12 F	21						19
429-14 F	21						23
430-17 F	21						25
431-11 F	23						21
440-15 F	28						22
447-17 F	23						17
629-17 F	18						19
MEAN	21			18	17	17	17
S. D.	4.5			0.7	--	--	--
N	27			3	2	2	2

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX II. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

a ANIMAL WAS MATING.  
b ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
304-11 F	18		19	19	22	22	22	22	22	22	22	22	25	25	23	23	20	20
307-13 F	17		19	19	19	21	21	21	20	20	20	20	17	17	19	19	20	20
332-05 F			20	20	22	24	24	24	21	19	19	19	20	20	21	21	21	21
338-10 F			19	19	20	20	20	20	20	20	20	20	19	19	20	20	18	18
340-10 F	20		25	25	27	27	28	28	28	28	28	28	29	29	27	27	28	28
342-05 F			16	16	16	18	18	17	17	17	18	18	18	18	18	19	19	19
343-09 F	14		15	17	17	19	19	19	19	19	18	18	19	19	19	19	19	19
351-11 F	19		21	23	23	24	24	22	22	24	24	24	24	24	24	24	24	24
351-12 F	18		22	23	23	25	25	25	25	25	25	26	26	26	27	26	26	26
356-14 F	19		21	21	21	22	22	22	22	22	22	22	23	23	23	22	22	22
357-10 F			18	19	19	19	19	20	20	20	19	19	19	19	19	19	19	19
359-13 F	18		21	23	23	24	24	24	24	24	24	24	26	26	25	25	24	24
367-08 F	17		18	18	18	19	19	19	19	19	19	19	20	20	20	20	20	20
367-10 F	16		19	18	18	18	19	19	20	20	19	19	19	19	19	19	19	19
368-10 F	18		22	22	22	23	23	22	22	22	22	22	24	24	22	22	22	22
372-09 F	17		22	22	22	25	25	25	24	24	24	24	25	25	25	25	21	21
373-08 F	16		19	19	19	20	20	20	20	20	20	20	19	19	17	17	18	18
382-08 F	16		20	20	21	21	22	22	22	21	21	21	21	21	20	20	23	23
382-09 F	15		17	18	18	19	19	19	20	20	19	19	19	19	20	20	20	20
385-07 F	16		19	19	19	20	20	20	19	19	20	20	19	19	20	20	19	19
404-07 F			18	22	22	20	20	20	20	20	19	20	20	20	20	21	21	21
418-12 F			18	19	19	21	21	21	20	20	21	21	21	21	20	20	22	22
421-12 F	20		21	19	19	21	21	22	22	21	21	22	22	22	23	23	23	23
432-12 F	16		20	20	20	21	21	21	21	22	22	21	21	22	22	23	23	23
439-11 F	15		18	18	18	20	20	20	21	21	21	24	24	24	21	19	19	19
444-16 F	17		22	22	22	22	22	23	23	23	23	23	23	23	21	22	22	22
445-13 F			19	21	21	23	23	23	23	23	23	23	23	23	22	22	23	23
625-08 F			17	18	18	19	19	19	19	19	19	20	20	20	19	19	20	20
MEAN	17		19	20	20	22	22	21	21	21	21	21	22	22	21	21	21	21
S. D.	1.5		2.1	2.1	2.1	2.3	2.3	2.3	3.7	3.7	3.7	2.9	2.9	2.9	2.5	2.5	2.5	2.5
N	20		28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

-----  
WEEK 11 TO 12 12 TO 13 14 TO 15 15 TO 16 16 TO 17 17 TO 18  
-----

304-11 F	21	19					
307-13 F	21	19					
332-05 F	22	22	a	18	18	19	
338-10 F	19	19					
340-10 F	29	31					
342-05 F	18	17					
343-09 F	20	22					
351-11 F	26	25					
351-12 F	27	27					
356-14 F	21	20					
357-10 F	22	22					
359-13 F	24	27					
367-08 F	b	21					
367-10 F	22	25					
368-10 F	24	21					
372-09 F	23	25					
373-08 F	20	20					
382-08 F	26	20					
382-09 F	21	22					
385-07 F	23	20					
404-07 F	22	19					
418-12 F	20	22					
421-12 F	22	21					
432-12 F	23	22					
439-11 F	22	21					
444-16 F	25	21					
445-13 F	24	22					
625-08 F	21	16					

MEAN	23	22	18	18	18	19	
S. D.	2.5	3.2	--	--	--	--	
N	27	28	1	1	1	1	

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NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX II. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.  
-----

a ANIMAL WAS MATING.  
b ELIMINATED DUE TO SPILLED FEED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 4: 5.0 MG/KG/DAY

WEEK	1 TO	2	2 TO	3	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
303-07 F			16	21	23	22	22	22	22	22	22	22	22	23	23	21	21	21	22	22
316-12 F		16	18	19	19	20	22	22	20	20	22	22	19	20	20	20	20	20	21	21
326-09 F		17	18	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	21	21
328-08 F			18	19	19	19	20	20	20	20	20	20	20	20	20	20	20	20	20	20
330-01 F			19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
344-09 F		16	17	17	17	17	18	18	18	18	18	18	18	18	18	19	19	19	19	19
346-15 F			17	16	16	16	17	17	18	18	18	18	18	19	19	19	19	20	20	21
347-12 F		18	18	20	20	20	21	21	21	21	21	21	20	20	20	21	21	21	21	21
350-11 F		18	22	22	22	22	22	22	22	22	22	22	21	22	22	22	22	22	24	24
360-08 F			20	20	20	20	21	21	21	21	21	21	21	21	21	20	20	21	21	21
361-13 F			20	20	20	20	19	19	19	19	19	20	20	20	20	20	20	19	19	19
365-09 F		10	20	22	22	22	23	23	23	23	23	25	23	25	25	23	23	23	23	23
374-09 F			19	21	21	21	22	22	22	22	22	21	21	33	33	23	23	26	26	26
375-12 F		16	19	19	19	19	20	20	20	20	20	20	19	20	20	19	20	20	20	20
381-11 F		17	19	19	19	19	19	19	19	19	22	22	19	20	20	20	20	21	21	21
393-14 F			20	22	22	22	24	24	24	24	24	24	24	26	26	26	26	26	26	26
398-10 F		16	17	18	18	18	18	18	18	18	19	19	19	19	19	19	19	19	19	19
402-10 F		16	20	18	18	18	19	19	19	19	19	19	18	22	22	22	22	23	23	23
410-12 F		16	18	18	18	18	18	18	18	18	18	19	19	20	20	19	19	19	19	19
414-09 F		19	21	23	23	23	23	23	23	23	23	21	21	21	21	20	20	20	23	23
416-08 F			18	19	19	19	19	19	19	19	20	20	20	20	20	21	21	21	22	22
416-09 F			18	19	19	19	20	20	20	20	20	20	20	a	a	21	21	21	21	21
417-13 F		17	19	19	19	19	20	20	20	20	20	20	21	20	20	21	21	21	20	20
436-08 F		18	20	20	20	20	21	21	21	21	21	21	21	20	20	20	20	20	20	20
436-12 F		17	19	20	20	20	21	21	21	21	21	21	23	24	24	22	22	22	21	21
443-12 F		16	19	19	19	19	19	19	19	19	19	20	19	19	19	20	20	21	21	21
451-16 F		17	20	21	21	21	22	22	22	22	21	21	20	21	21	21	21	21	22	22
MEAN		16	19	20	20	20	20	20	20	20	21	21	20	21	21	21	21	21	21	21
S.D.		2.0	1.3	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	3.1	1.5	1.5	2.0	2.0	2.0
N		16	27	27	27	27	27	27	27	27	27	27	27	27	25	27	27	27	27	27

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
a ELIMINATED DUE TO SPILLED FEED.



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 4: 5.0 MG/KG/DAY

WEEK	11 TO 12	12 TO 13	13 TO 14	14 TO 15	15 TO 16	16 TO 17	17 TO 18
303-07 F	25	20					
316-12 F	22	19					
326-09 F	21	20					
328-08 F	20	18					
330-01 F	19	18					
344-09 F	20	19					
346-15 F	21	22					
347-12 F	24	25	a	15	14		17
350-11 F	28	22					
360-08 F	23	22					
361-13 F	19	19					
365-09 F	22	21	a	27			
374-09 F	27	22					
375-12 F	22	19					
381-11 F	24	25	a	25			
393-14 F	26	26					
398-10 F	22	18					
402-10 F	21	21					
410-12 F	26	20					
414-09 F	23	21	a	18	19		18
416-08 F	26	22					
416-09 F	24	19					
417-13 F	20	23					
436-08 F	25	21					
436-12 F	22	27					
443-12 F	21	20					
451-16 F	23	23					
MEAN	23	21		21	16		18
S.D.	2.4	2.5		5.8	--	--	--
N	27	27		4	2	2	2

NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX II. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.

a ANIMAL WAS MATING.

APPENDIX HH  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

WEEK	1 TO	2	3 TO	4	4 TO	5	5 TO	6	6 TO	7	7 TO	8	8 TO	9	9 TO	10	10 TO	11
308-14 F	16		20	25	22	21	20	21	20	21	20	21	21	20	18		18	
318-04 F	16	18	18	17	19	20	19	20	19	20	19	20	20	19	20	20	20	
318-10 F	12	19	19	18	20	20	20	20	20	20	20	20	19	19	20	20	20	
319-10 F		19	19	19	19	21	21	21	21	21	21	21	21	21	24	24	19	
327-04 F		21	21	22	26	21	21	22	21	21	21	21	22	20	21	21	21	
331-08 F		19	19	19	21	20	20	20	20	20	20	20	20	20	20	20	21	
333-06 F		19	19	19	20	19	19	19	19	19	19	16	16	20	19	19	19	
336-08 F		21	21	20	20	19	18	20	18	20	20	20	20	19	18	18	18	
337-07 F	18	20	20	20	22	21	21	22	21	21	21	22	22	21	21	21	20	
352-12 F	18	21	21	22	22	23	23	23	23	23	23	23	23	22	22	22	22	
358-09 F		20	20	20	21	19	20	20	20	20	20	20	20	20	20	19	19	
362-04 F	18	21	21	23	24	23	22	24	22	22	22	24	24	24	22	22	22	
364-13 F		19	19	20	20	20	20	21	20	20	20	21	21	20	21	21	21	
378-10 F	16	20	20	21	24	23	25	23	25	25	25	24	24	25	24	27	27	
394-11 F	14	17	17	18	18	18	18	18	18	18	18	19	19	18	18	17	17	
395-15 F		19	19	20	20	21	20	20	20	21	20	20	20	20	15	20	20	
396-16 F		20	20	19	21	21	21	21	21	21	21	21	21	21	20	19	19	
399-12 F	16	19	19	19	20	20	20	20	21	20	21	19	19	22	22	22	22	
405-08 F	18	21	21	21	22	24	21	23	21	21	21	23	23	22	22	22	22	
415-12 F	17	19	19	20	22	21	20	21	20	21	20	20	20	21	21	21	21	
434-10 F		20	20	20	22	21	20	22	20	20	20	21	21	21	22	22	22	
435-13 F	16	19	19	19	20	20	20	20	20	20	19	20	20	19	19	19	19	
437-08 F		19	19	19	20	20	20	20	20	20	20	21	21	20	21	21	21	
438-15 F		19	19	19	20	20	20	20	20	20	20	21	21	21	a	21	21	
441-10 F		15	15	17	17	17	17	17	17	17	18	17	17	17	17	18	18	
448-04 F	21	26	26	21	23	24	24	24	24	24	24	24	24	24	24	24	24	
434-08 F	18	18	18	21	22	15	20	22	20	20	20	22	22	21	21	20	20	
627-11 F	17	19	19	18	19	26	20	26	20	26	20	18	18	21	21	20	20	
MEAN	17	20	20	20	21	21	20	21	20	21	20	21	21	21	21	20	20	
S. D.	2.1	1.8	1.8	1.8	1.9	2.2	1.6	2.0	1.6	2.1	2.1	2.0	2.1	2.1	2.1	2.0	2.0	
N	14	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	28	

NOTE: FULL 7-DAY FOOD CONSUMPTION MEASUREMENTS BEGAN ON A STAGGERED BASIS ON STUDY WEEK 2 OF THE GROWTH PHASE.  
 a ELIMINATED DUE TO SPILLED FEED.

APPENDIX HH  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

-----  
WEEK 11 TO 12 12 TO 13 14 TO 15 15 TO 16 16 TO 17 17 TO 18  
-----

308-14 F	18	20																		
318-04 F	22	24																		
318-10 F	23	24																		
319-10 F	21	18																		
327-04 F	24	22																		
331-08 F	23	21																		
333-06 F	19	24																		
336-08 F	20	20																		
337-07 F	22	18																		
352-12 F	25	24																		
358-09 F	20	22																		
362-04 F	22	25																		
364-13 F	22	22																		
378-10 F	30	23																		
394-11 F	18	18																		
395-15 F	21	22																		
396-16 F	21	18																		
399-12 F	19	24																		
405-08 F	20	20																		
415-12 F	22	24																		
434-10 F	26	20																		
435-13 F	21	22																		
437-08 F	22	20																		
438-15 F	b	20																		
441-10 F	18	18																		
448-04 F	24	28																		
434-08 F	22	22																		
627-11 F	20	19																		

MEAN	22	22																		
S. D.	2.6	2.5																		
N	27	28																		

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NOTE: FOOD CONSUMPTION WAS NOT MEASURED DURING MATING (WEEK 13 TO 14). FOOD CONSUMPTION FOR FEMALES WITH POSITIVE EVIDENCE OF MATING ARE PRESENTED IN APPENDIX II. STANDARD DEVIATION WAS NOT CALCULATED WHEN N < 2.  
-----

a ANIMAL WAS MATING.  
b ELIMINATED DUE TO SPILLED FEED.

SLI Study No. 3472.4

APPENDIX II

Individual F1 Gestation Food Consumption Data  
(grams/animal/day)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX II  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	DAY			14-20
	0-7	7-14	14-20	
306-05 G	24	26	24	
311-13 G	23	25	24	
317-13 G	23	24	24	
321-10 G	23	26	24	
323-12 G	21	23	22	
345-05 G	24	26	25	
345-08 G	23	24	25	
348-13 G	22	25	22	
353-11 G	19	20	22	
355-13 G	24	27	26	
371-03 G	21	22	23	
380-09 G	21	25	25	
384-13 G	23	23	22	
388-13 G	22	24	23	
390-09 G	23	24	26	
390-11 G	20	23	24	
400-10 G	22	22	23	
403-12 G	22	22	20	
408-12 G	24	27	23	
426-14 G	24	25	25	
427-14 G	23	25	26	
449-11 NG	26	23	16	
449-12 G	25	25	25	
628-07 G	22	33	24	
628-12 G	26	18	25	

MEAN 23 24 24  
 S. D. 1.6 2.8 1.5  
 N 24 24 24

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

APPENDIX II  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
310-04 G	24	24	22	
312-08 G	22	22	21	
313-07 G	22	26	25	
314-12 G	25	26	25	
324-12 G	22	24	25	
329-11 G	26	27	26	
329-12 G	27	28	22	
354-10 G	27	26	27	
363-11 G	24	25	24	
377-09 G	23	24	23	
397-15 G	26	28	25	
406-04 G	20	21	24	
409-09 G	22	24	24	
411-10 G	26	28	24	
411-11 G	26	28	29	
419-14 G	23	25	24	
422-13 G	27	27	25	
428-15 G	26	29	24	
429-12 G	24	25	26	
429-14 G	25	26	28	
430-17 G	22	24	25	
431-11 G	24	24	24	
440-15 G	28	27	28	
447-17 G	20	21	22	
629-17 G	22	24	24	
MEAN	24	25	25	
S. D.	2.3	2.2	2.0	
N	25	25	25	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

GROUP 3: 2.5 MG/KG/DAY

APPENDIX II

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
G	22	24	22	
G	23	22	22	
G	22	24	23	
G	30	33	32	
G	21	21	21	
NG	21	21	18	
G	27	29	29	
G	29	30	29	
G	25	26	26	
NG	23	23	17	
G	27	32	31	
G	24	24	a	
G	23	24	24	
G	23	24	25	
G	23	24	26	
G	19	20	21	
G	24	27	25	
G	21	23	23	
G	26	a	24	
G	25	25	29	
G	20	22	21	
G	25	28	27	
G	24	26	25	
G	22	25	27	
G	22	23	25	
G	22	26	25	
G	21	23	23	
MEAN	24	25	25	
S. D.	2.7	3.3	3.1	
N	25	24	24	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN  
 a ELIMINATED DUE TO SPILLED FEED.

APPENDIX II  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0- 7	7-14	14-20	
303-07 G	25	26	26	
316-12 NG	23	22	21	
326-09 G	24	25	26	
328-08 G	23	25	24	
330-01 G	21	25	24	
344-09 G	24	25	23	
346-15 G	23	23	27	
350-11 G	27	26	26	
360-08 G	21	21	22	
361-13 G	21	23	23	
374-09 G	27	29	28	
375-12 G	23	23	22	
393-14 G	31	32	31	
398-10 G	22	24	24	
402-10 G	23	26	26	
410-12 NG	25	25	18	
416-08 G	26	26	27	
416-09 G	21	22	24	
417-13 G	24	23	21	
436-08 G	22	26	27	
436-12 G	25	27	25	
443-12 G	22	24	24	
451-16 G	22	26	28	
MEAN	24	25	25	
S. D.	2.5	2.4	2.4	
N	21	21	21	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN



APPENDIX II  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 GESTATION FOOD CONSUMPTION DATA (GRAMS/ANIMAL/DAY)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	DAY			
	0-7	7-14	14-20	
308-14 G	20	20	21	
318-04 G	24	26	26	
319-10 G	22	23	20	
327-04 G	23	25	26	
331-08 G	25	24	21	
333-06 G	20	22	23	
336-08 G	24	25	26	
337-07 G	23	22	18	
358-09 G	19	24	24	
362-04 NG	26	25	20	
364-13 G	23	22	22	
378-10 G	28	29	30	
394-11 G	19	20	21	
395-15 G	21	24	24	
396-16 G	23	26	26	
399-12 NG	22	24	16	
405-08 G	21	24	22	
415-12 NG	22	20	18	
434-10 G	26	28	28	
435-13 G	23	23	26	
437-08 G	23	23	24	
438-15 G	23	23	a	
441-10 G	17	21	20	
448-04 G	28	30	29	
434-08 G	22	23	23	
627-11 G	24	24	23	
MEAN	23	24	24	
S. D.	2.7	2.6	3.1	
N	23	23	22	

G = GRAVID NG = NONGRAVID; NOT INCLUDED IN CALCULATION OF MEAN  
 a ELIMINATED DUE TO SPILLED FEED.

(986)

SLI Study No. 3472.4

## APPENDIX JJ

Individual F1 Estrous Cyclicity Data

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 1: 0 MG/KG/DAY				
306-05 F	X		5, 7, 4	5.25
311-13 F	X		4, 4, 4, 3, 4, 3	3.67
317-13 F	X		4, 5, 4, 4, 4	4.20
321-10 F	X		4, 4, 4, 8	5.00
323-12 F	X		4, 4, 4, 4, 4	4.00
345-05 F	X		4, 4, 5, 4	4.25
345-08 F	X		4, 4, 4, 4	4.00
348-13 F		X		
353-11 F		X		
355-13 F		X		
371-03 F		X		
380-09 F		X		
384-13 F	X		4, 4, 4, 4, 4, 4	4.00
388-13 F		X		
390-09 F	X		4, 4, 4, 4, 4	4.00
390-11 F	X		4, 15, 13	10.67
400-10 F		X		
403-12 F	X		4, 4, 4, 4, 4	4.00
408-12 F		X		
420-05 F	X		5, 17, 3, 4	7.25
425-13 F		X	NO ESTRUS CYCLE DATA ENTERED	
426-14 F	X		4, 4, 4, 5, 4	4.20
427-14 F	X		4, 5, 4, 4	4.25
449-11 F	X		5, 5, 4, 4	4.50
449-12 F	X		4, 3, 5, 4, 4	4.00
450-13 F	X		4, 4, 18	8.67

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

PAGE 2

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 1: 0 MG/KG/DAY				
628-07 F	X		6, 4, 14	8.00
628-12 F		X		
MEAN				5.22
S. D.				2.019
N				18

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 2: 1.0 MG/KG/DAY				
310-04 F	X		15, 4, 4	7.67
312-08 F	X		4, 4, 14	7.33
313-07 F	X		4, 4, 14, 4	6.50
314-12 F	X		4, 7, 4, 4	4.75
324-12 F	X		4, 4, 3, 5, 4, 4	4.00
325-13 F	X		2, 2, 3, 5, 4, 4, 3, 5	3.50
329-11 F	X		5, 4, 5, 5, 5	4.80
329-12 F	X		4, 5, 5, 5	4.75
354-10 F	X		4, 4, 4, 14	7.33
363-11 F	X		4, 8, 4, 4, 4	4.80
377-09 F	X		4, 4, 4, 17	8.33
397-15 F	X		4, 4, 4, 16	8.00
406-04 F	X		4, 4, 4, 16	8.00
409-09 F	X		6, 4, 4, 4, 4	4.40
411-10 F	X		4, 4, 4, 4, 4	4.00
411-11 F		X		
413-09 F	X		15, 4, 4, 4, 6	6.60
419-14 F	X		4, 4, 3, 5, 4	4.00
422-13 F	X		4, 4, 3, 5, 4	4.00
423-12 F	X		4, 3, 6	4.33
428-15 F	X		14, 4, 4	7.33
429-12 F	X		4, 4, 4, 4, 4	4.00
429-14 F	X		4, 4, 15	7.67
430-17 F		X		
431-11 F	X		5, 3, 11, 4	5.75
440-15 F		X		

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
 CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
 OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX JJ  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 2: 1.0 MG/KG/DAY				
447-17 F		X	4, 4, 4, 4, 4, 4	4.00
629-17 F	X			
MEAN				5.66
S. D.				1.666
N				24

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
 CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
 OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 3: 2.5 MG/KG/DAY				
304-11 F	X		5, 4, 4, 4, 4	4.50
307-13 F	X		4, 4, 4, 4, 4	4.00
332-05 F	X		9, 4, 4	5.67
338-10 F	X		4, 5, 5, 5, 4	4.60
340-10 F	X		4, 4, 4, 14	7.33
342-05 F	X		5, 4, 4, 5, 4	4.40
343-09 F	X		4, 4, 4, 13	7.00
351-11 F	X		4, 4, 4, 4, 4	4.00
351-12 F	X		4, 4, 4, 3, 5, 4	4.00
356-14 F	X		5, 4, 4, 5, 4	4.50
357-10 F		X		
359-13 F	X		4, 5, 15	8.00
367-08 F	X		5, 4, 5, 5, 4	4.60
367-10 F		X		
368-10 F	X			
372-09 F	X			
373-08 F	X			
382-08 F	X			
382-09 F	X			
385-07 F	X		4, 4, 4, 4, 4, 4	4.00
404-07 F	X		14, 3, 5	7.33
418-12 F		X		
421-12 F	X		4, 4, 4, 4, 4, 4	4.00
432-12 F	X		4, 8, 4, 4, 4	4.80
439-11 F	X		4, 4, 12, 4	6.00
444-16 F		X		

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

PAGE 6

	CYCLING		MEAN CYCLE LENGTH
	YES	NO	
GROUP 3: 2.5 MG/KG/DAY			
445-13 F		X	
625-08 F		X	
MEAN			5.22
S. D.			1.385
N			17

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).



	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 4: 5.0 MG/KG/DAY				
303-07 F		X		
316-12 F	X		16, 4, 4	8.00
326-09 F	X		4, 3, 5, 4	4.00
328-08 F	X		3, 5, 4, 4, 4	4.00
330-01 F	X		4, 5, 4, 4, 5	4.40
344-09 F	X		4, 4, 5, 4, 4	4.20
346-15 F	X		4, 4, 13	7.00
347-12 F		X		
350-11 F	X		5, 4, 5, 4, 4	4.40
360-08 F		X		
361-13 F	X		4, 4, 4, 4, 4	4.00
365-09 F	X		4, 5, 6, 5, 4	4.80
374-09 F		X		
375-12 F		X		
381-11 F		X		
389-09 F		X		
393-14 F	X		NO ESTRUS DATA ENTERED	
398-10 F	X		3, 4, 5, 4	4.00
402-10 F	X		15, 4, 4	7.67
410-12 F		X	3, 13, 4	6.67
414-09 F	X		10, 4, 4, 4	5.50
416-08 F		X		
416-09 F		X		
417-13 F		X		
436-08 F	X		4, 5, 12	7.00
436-12 F		X		

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 4: 5.0 MG/KG/DAY				
443-12 F	X		3, 4, 3, 3, 5	3.60
451-16 F	X		4, 5, 16	8.33
MEAN				5.47
S. D.				1.674
N				16

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

	CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
	YES	NO		
GROUP 5: 10.0 MG/KG/DAY				
308-14 F	X		4, 4, 4, 4	4.00
318-04 F		X		
318-10 F	X		4, 5, 4	4.33
319-10 F		X		
327-04 F	X		4, 15, 4	7.67
331-08 F	X		4, 3, 16	7.67
333-06 F	X		5, 4, 15	8.00
336-08 F	X		4, 4, 4, 4, 4	4.00
337-07 F		X		
352-12 F		X		
358-09 F		X		
362-04 F		X		
364-13 F	X		4, 5, 4, 4, 4	4.20
378-10 F		X		
394-11 F		X		
395-15 F		X		
396-16 F	X		4, 5, 5, 5, 5	4.80
399-12 F		X		
405-08 F	X		4, 4, 4, 4, 4	4.00
415-12 F	X		4, 4, 14	7.33
434-10 F		X		
435-13 F	X		4, 4, 15	7.67
437-08 F	X		14, 4, 4	7.33
438-15 F	X		13, 4, 4	7.00
441-10 F	X		5, 5, 5, 5	5.00
448-04 F	X		4, 6, 14	8.00

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX JJ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 ESTROUS CYCLICITY DATA

PAGE 10

CYCLING		CYCLE LENGTH (DAYS)	MEAN CYCLE LENGTH
YES	NO		
GROUP 5: 10.0 MG/KG/DAY			
434-08 F	X	5, 3, 13	7.00
627-11 F	X	4, 6, 5, 4	4.75
MEAN			6.04
S. D.			1.656
N			17

NOTE: CYCLING = FEMALES WERE CONSIDERED TO BE CYCLING IF THEY HAD AT LEAST THREE ESTROUS CYCLES DURING THE EVALUATION PERIOD.  
CYCLE LENGTH (DAYS) = THE NUMBER OF DAYS BETWEEN ESTROUS OBSERVATIONS (INTERCEDED BY AT LEAST ONE NONESTROUS STAGE),  
OR BETWEEN ESTROUS AND EVIDENCE OF COPULATION (COPULATORY PLUG OR POSITIVE SMEAR).

SLI Study No. 3472.4

APPENDIX KK

Individual F1 Reproductive Performance Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX KK  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 REPRODUCTIVE PERFORMANCE DATA

GROUP 1: 0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
306-05	323-05	3	G
311-13	323-06	1	G
317-13	345-01	4	G
321-10	348-04	4	G
323-12	353-06	4	G
345-05	355-05	2	G
345-08	371-01	1	G
348-13	380-04	3	G
353-11	384-05	3	G
355-13	388-03	3	G
371-03	390-04	2	G
380-09	400-06	2	G
384-13	355-02	4	G
388-13	403-06	2	G
390-09	408-03	1	G
390-11	420-02	14	G
400-10	425-07	2	G
403-12	426-05	2	G
408-12	427-02	3	G
420-05	449-05	a	NG
425-13	FOUND DEAD - ACCIDENTAL INJURY		
426-14	450-06	1	G
427-14	628-04	2	G
449-11	306-01	1	NG
449-12	306-02	1	G
450-13	311-06	a	NG
628-07	317-04	3	G
628-12	321-01	1	G

G = GRAVID NG = NONGRAVID  
a PRESENCE OF SPERM WAS NOT DETECTED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX KK  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 REPRODUCTIVE PERFORMANCE DATA

GROUP 2: 1.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
310-04	324-02	3	G
312-08	325-08	2	G
313-07	329-05	5	G
314-12	354-05	3	G
324-12	363-06	4	G
325-13	377-05	a	NG
329-11	397-02	3	G
329-12	397-06	1	G
354-10	406-07	1	G
363-11	409-03	3	G
377-09	411-01	4	G
397-15	413-04	3	G
406-04	419-10	3	G
409-09	422-04	1	G
411-10	428-03	2	G
411-11	428-09	1	G
413-09	429-06	a	NG
419-14	430-06	2	G
422-13	431-03	2	G
423-12	440-04	a	NG
428-15	447-02	3	G
429-12	629-07	2	G
429-14	310-01	2	G
430-17	312-03	3	G
431-11	312-06	2	G
440-15	313-03	1	G
447-17	314-03	12	G
629-17	397-06	3	G

G = GRAVID NG = NONGRAVID  
 a PRESENCE OF SPERM WAS NOT DETECTED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX KK  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 REPRODUCTIVE PERFORMANCE DATA

GROUP 3: 2.5 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
304-11	340-01	3	G
307-13	340-07	2	G
332-05	342-03	a	NG
338-10	343-03	4	G
340-10	351-08	2	G
342-05	356-01	4	G
343-09	356-02	1	NG
351-11	357-04	2	G
351-12	359-08	2	G
356-14	367-03	1	G
357-10	368-04	2	NG
359-13	372-04	3	G
367-08	373-04	2	G
367-10	373-06	1	G
368-10	382-03	3	G
372-09	385-04	2	G
373-08	404-03	1	G
382-08	418-05	2	G
382-09	421-03	1	G
385-07	432-04	4	G
404-07	439-02	1	G
418-12	444-01	3	G
421-12	445-03	3	G
432-12	625-02	3	G
439-11	304-05	3	G
444-16	307-02	1	G
445-13	332-02	2	G
625-08	338-01	3	G

G = GRAVID NG = NONGRAVID  
 a PRESENCE OF SPERM WAS NOT DETECTED.



APPENDIX KK  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 REPRODUCTIVE PERFORMANCE DATA

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
303-07	346-09	3	G
316-12	347-07	4	NG
326-09	350-09	1	G
328-08	360-04	2	G
330-01	361-04	4	G
344-09	365-05	1	G
346-15	374-04	1	G
347-12	375-02	a	NG
350-11	381-02	1	G
360-08	389-04	9	G
361-13	393-06	2	G
365-09	398-07	a	G
374-09	402-06	3	G
375-12	410-04	2	G
381-11	414-06	a	G
389-09	FOUND DEAD - ACCIDENTAL INJURY		
393-14	416-01	1	G
398-10	416-03	4	G
402-10	417-04	4	G
410-12	389-06	1	NG
414-09	436-02	a	NG
416-08	443-05	1	G
416-09	451-01	14	G
417-13	303-03	2	G
436-08	316-02	1	G
436-12	326-05	4	G
443-12	328-04	3	G
451-16	344-05	4	G

G = GRAVID NG = NONGRAVID  
 a PRESENCE OF SPERM WAS NOT DETECTED.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX KK  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F1 REPRODUCTIVE PERFORMANCE DATA

GROUP 5: 10.0 MG/KG/DAY

FEMALE NO.	MALE NO.	PRECOITAL INTERVAL (DAYS)	PREGNANCY STATUS
308-14	336-02	1	G
318-04	337-04	3	G
318-10	352-08	a	G
319-10	358-04	1	G
327-04	362-02	3	G
331-08	364-03	2	G
333-06	378-08	3	G
336-08	394-05	2	G
337-07	395-06	4	G
352-12	396-01	a	NG
358-09	399-02	2	G
362-04	405-05	2	NG
364-13	415-02	4	G
378-10	434-02	3	G
394-11	435-03	2	G
395-15	437-03	2	G
396-16	437-05	4	G
399-12	438-02	2	NG
405-08	441-02	2	G
415-12	448-02	2	NG
434-10	626-02	2	G
435-13	627-07	2	G
437-08	308-02	3	G
438-15	318-03	2	G
441-10	319-07	4	G
448-04	327-02	3	G
434-08	331-06	1	G
627-11	333-04	1	G

G = GRAVID NG = NONGRAVID  
 a PRESENCE OF SPERM WAS NOT DETECTED.

(1003)

SLI Study No. 3472.4

APPENDIX LL

Individual F1 Gestation Length Data

APPENDIX LL

GROUP 1: 0 MG/KG/DAY			GROUP 2: 1.0 MG/KG/DAY			GROUP 3: 2.5 MG/KG/DAY			GROUP 4: 5.0 MG/KG/DAY			GROUP 5: 10.0 MG/KG/DAY		
ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH		ANIMAL NO.	GESTATION LENGTH	
306-05	22		310-04	22		304-11	22		303-07	22		308-14	22	
311-13	23		312-08	22		307-13	22		326-09	22		318-04	22	
317-13	22		313-07	22		338-10	22		328-08	22		319-10	22	
321-10	22		314-12	22		340-10	22		330-01	22		327-04	22	
323-12	22		324-12	22		342-05	22		344-09	22		331-08	23	
345-05	22		329-11	22		351-11	22		346-15	22		333-06	21	
345-08	22		329-12	22		351-12	22		350-11	22		336-08	22	
348-13	22		354-10	22		356-14	23		360-08	22		337-07	22	
353-11	21		363-11	22		359-13	22		361-13	22		358-09	22	
355-13	22		377-09	22		367-08	22		374-09	22		364-13	22	
371-03	22		397-15	22		367-10	23		375-12	22		378-10	22	
380-09	23		406-04	22		368-10	22		383-14	22		394-11	21	
384-13	22		409-09	22		372-09	22		398-10	22		395-15	22	
388-13	22		411-10	22		373-08	22		402-10	22		396-16	22	
390-09	22		411-11	21		382-08	22		416-08	22		405-08	23	
390-11	23		419-14	22		382-09	22		416-09	22		434-10	22	
400-10	22		422-13	22		385-07	22		417-13	22		435-13	22	
403-12	22		428-15	22		404-07	21		436-08	22		437-08	22	
408-12	22		429-12	24		418-12	22		436-12	21		438-15	22	
426-14	22		429-14	22		421-12	22		443-12	22		441-10	23	
427-14	22		430-17	22		432-12	22		451-16	22		448-04	22	
449-12	22		431-11	22		439-11	22					434-08	23	
628-07	22		440-15	22		444-16	22					627-11	22	
628-12	22		447-17	22		445-13	22							
			629-17	22		625-08	22							
MEAN	22.1		MEAN	22.0		MEAN	22.1		MEAN	22.0		MEAN	22.1	
S. D.	0.4		S. D.	0.5		S. D.	0.4		S. D.	0.2		S. D.	0.5	
N	24		N	25		N	25		N	21		N	23	

(1005)

SLI Study No. 3472.4

APPENDIX MM

Individual F1 Parental Gross Necropsy Observations

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

APPENDIX MM

PAGE 1

GRADE

ANIMAL NO.	GROUP	1.0 MG/KG/DAY	MALE	THYMUS GLAND	FOUND DEAD	9/10/99	STUDY DAY 108	GRADE
ANIMAL NO. 354-05	GROUP: 1.0 MG/KG/DAY	MALE	THYMUS GLAND	FOUND DEAD	8/2/99	STUDY DAY 69	P	
				GROSS: DARK RED				
				BOTH LOBES				
ANIMAL NO. 423-03	GROUP: 1.0 MG/KG/DAY	MALE	DUODENUM	FOUND DEAD	8/2/99	STUDY DAY 69	P	
				GROSS: CONTENT ABNORMAL				
				DARK RED SOLID MATERIAL				
			DUODENUM	GROSS: MUCOSA REDDENED			P	
			HEART	GROSS: PERICARDIUM - THICKENED			P	
			JEJUNUM	GROSS: CONTENT ABNORMAL			P	
				DARK RED SOLID MATERIAL AND RED MUCOID MATERIAL				
			JEJUNUM	GROSS: MUCOSA REDDENED			P	
			MEDIASTINAL L. N.	GROSS: REDDENED			P	
				FEW				
			MEDIASTINAL L. N.	GROSS: ENLARGED			P	
				FEW, UP TO 0.5 X 0.4 X 0.1 CM				
			LUNG/BRONCHI	GROSS: ADHESION			P	
				INVOLVING RIGHT LUNG LOBES, DIAPHRAGM AND PERICARDIUM; WITH ASSOCIATED FIBROUS MATERIAL ADHERED TO SUPERIOR SURFACE OF RIGHT LUNG LOBES, TAN-YELLOW; RIGHT LUNG LOBES DISCOLORED, DARK RED AND LIGHT RED				
			THORACIC CAVITY	GROSS: FLUID CONTENTS			P	
				APPROXIMATELY 1 ML OF RED FLUID				
			ABDOMINAL CAVITY	GROSS: ADHESION			P	
				INVOLVING BODY WALL, XIPHOID PROCESS, LIVER, STOMACH, ADIPOSE TISSUE, SPLEEN AND DIAPHRAGM				
			SKIN	GROSS: SUBCUTANEOUS NODULE			P	
				VENTRAL ABDOMEN, ONE, 0.7 X 0.5 X 0.1 CM, TAN, WITH TAN CASEOUS CONTENTS				
			STOMACH	GROSS: CONTENT ABNORMAL			P	
				DARK RED SOLID MATERIAL AND RED FLUID				
			STOMACH	GROSS: MUCOSA REDDENED			P	
			EXT. APPEARANCE	GROSS: HAIRCOAT - DARK MATERIAL AROUND NOSE AND MOUTH, RED			P	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

APPENDIX MM

PAGE 2

ANIMAL NO.	425-13	GROUP:	0 MG/KG/DAY	FEMALE	FOUND DEAD - ACCIDENTAL INJURY	GRADE
					FOUND DEAD 6/ 4/99 STUDY DAY 10	
					GROSS: DEAD DUE TO ACCIDENTAL INJURY	P
					UNABLE TO EXAMINE PORTIONS OF INTESTINAL TRACT DUE TO CANNIBALIZATION	
					SUBCUTANEOUS TIS GROSS: HEMORRHAGE	P
					MAJOR PORTIONS OF RIGHT HINDLIMB WITH ASSOCIATED EDEMA	
					FOUND DEAD 6/ 4/99 STUDY DAY 10	
					GROSS: DEAD DUE TO ACCIDENTAL INJURY	P
					UNABLE TO EXAMINE ALL REPRODUCTIVE AND ABDOMINAL VISCERA, HINDLIMBS, HEART, PORTIONS OF LUNG LOBES AND SPINAL CORD IN THE LUMBAR AREA DUE TO CANNIBALIZATION	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

APPENDIX MM

PAGE 3

SCHEDULED EUTHANASIA

GRADE

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	GRADE
306-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
306-02	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
		EXT. APPEARANCE		GROSS: HAIRCOAT - HAIRLOSS			
				FOREPAWS			
311-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	1
		KIDNEYS		GROSS: DILATED PELVIS			
		THYMUS GLAND		GROSS: DARK RED			P
				BOTH LOBES			
317-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	1
		KIDNEYS		GROSS: DILATED PELVIS			
		EXT. APPEARANCE		GROSS: HAIRCOAT - HAIRLOSS			P
				FORELIMBS			
321-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
		KIDNEYS		GROSS: PITTED			
				RIGHT, CORTICAL SURFACE; ONE; 0.3 X 0.2 X 0.1 CM			
321-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
		THYMUS GLAND		GROSS: DARK RED			
				PORTION OF RIGHT LOBE			
323-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	P
		LIVER		GROSS: TAN AREA(S)			
				IN BIFURCATION OF MEDIAL LOBE, ONE, 0.2 CM DIAMETER			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

APPENDIX MM

PAGE 4

GRADE

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	GRADE
ANIMAL NO. 323-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 345-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: HAIRCOAT - HAIRLOSS FORELIMBS	1
ANIMAL NO. 348-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: HAIRCOAT - HAIRLOSS RIGHT FOREPAW	P
ANIMAL NO. 353-06	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 355-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 371-01	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: PITTED LEFT, CORTICAL SURFACE, MULTIPLE, UP TO 0.1 CM DIAMETER	P
			THYMUS GLAND	GROSS: FOCI LEFT LOBE, MULTIPLE, UP TO 0.1 CM DIAMETER, RED	P
			URINARY BLADDER	GROSS: CONTENT ABNORMAL RED FLUID	P
ANIMAL NO. 380-04	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 384-05	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: DILATED PELVIS LEFT	1
			KIDNEYS	GROSS: CALCULI LEFT, MULTIPLE, PINPOINT, WHITE	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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GRADE

ANIMAL NO. 384-05 (CONTINUED) URETERS GROSS: DISTENDED LEFT 1

EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS P  
FORELIMBS

ANIMAL NO. 388-03 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 390-04 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 400-06 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 355-02 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 403-06 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
GROSS: DILATED PELVIS RIGHT 1

ANIMAL NO. 408-03 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 420-02 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 425-07 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 426-05 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121  
DIAPHRAGM P

GROSS: THIN AREA(S)  
INCOMPLETE HERNIATION OF MUSCULO-TENDINOUS PORTION; 0.6 X 0.4  
CM PORTION OF SUPERIOR SURFACE OF MEDIAL LIVER LOBE  
MISSHAPEN AND EXTENDS INTO THIN AREA

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

(1010)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX MM  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

ANIMAL NO. 426-05 (CONTINUED) EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS  
FOREPAWS P

ANIMAL NO. 427-02 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122 P  
THYMUS GLAND GROSS: FOCI  
BOTH LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, RED

ANIMAL NO. 449-05 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122 P  
LIVER GROSS: TAN AREA(S)  
BIFURCATION OF MEDIAL LOBE; ONE; 0.4 X 0.2 CM

ANIMAL NO. 450-06 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122 1  
KIDNEYS GROSS: DILATED PELVIS  
RIGHT  
URINARY BLADDER GROSS: CONTENT ABNORMAL P  
BROWN FLUID

ANIMAL NO. 628-04 GROUP: 0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122 P  
KIDNEYS GROSS: PITTED  
BILATERAL, CORTICAL SURFACE; THREE; EACH 0.1 CM DIAMETER

ANIMAL NO. 310-01 GROUP: 1.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 312-03 GROUP: 1.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118 P  
GENERAL COMMENT GROSS: FINAL CLINICAL OBSERVATION NOT APPARENT POSTMORTEM  
MALALIGNMENT

ANIMAL NO. 312-06 GROUP: 1.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

(1011)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	GRADE
313-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
314-03	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118 GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	P
324-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/20/99 STUDY DAY 118 GROSS: TAN AREA(S) INFERIOR SURFACE OF LEFT LOBE, ONE, IRREGULARLY SHAPED THYMUS GLAND GROSS: DARK RED BOTH LOBES	P
325-08	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
329-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
363-06	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
377-05	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	P
397-02	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: INCISOR(S) - MALALIGNED UPPERS	P
397-06	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	DOSE:	SEX:	ORGAN:	SCHEDULED EUTHANASIA	GRADE
406-07	1.0 MG/KG/DAY	MALE	KIDNEYS		SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: DILATED PELVIS RIGHT	1
			THYMUS GLAND		GROSS: FOCI RIGHT LOBE; MULTIPLE; UP TO 0.2 CM DIAMETER; DARK RED	P
409-03	1.0 MG/KG/DAY	MALE			SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
411-01	1.0 MG/KG/DAY	MALE	KIDNEYS		SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: DILATED PELVIS RIGHT	1
			THYMUS GLAND		GROSS: FOCI BOTH LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, RED	P
413-04	1.0 MG/KG/DAY	MALE			SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
419-10	1.0 MG/KG/DAY	MALE			SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
422-04	1.0 MG/KG/DAY	MALE			SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
428-03	1.0 MG/KG/DAY	MALE	KIDNEYS		SCHEDULED EUTHANASIA 9/23/99 STUDY DAY 121 GROSS: DILATED PELVIS RIGHT	1
			THYMUS GLAND		GROSS: FOCI BOTH LOBES, SEVERAL, UP TO 0.2 CM DIAMETER, RED	P
			EXT. APPEARANCE		GROSS: HAIRCOAT - HAIRLOSS FORELIMBS	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX MM  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY	121	GRADE
428-09	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY	121	P
					GROSS: HAIRCOAT - DARK MATERIAL				
					AROUND NOSE; RED				
					GROSS: HAIRCOAT - HAIRLOSS				P
					FOREPAWS				
429-06	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY	121	P
					GROSS: HAIRCOAT - HAIRLOSS				
					RIGHT FOREPAW				
430-06	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY	121	P
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
431-03	GROUP:	1.0 MG/KG/DAY	ORAL CAVITY	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY	122	P
					GROSS: INCISOR(S) - MALALIGNED				
					UPPERS AND LOWERS				
440-04	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY	122	P
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
447-02	GROUP:	1.0 MG/KG/DAY	THYMUS GLAND	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY	122	P
					GROSS: FOCI				
					BOTH LOBES; MULTIPLE; PINPOINT; DARK RED				
629-07	GROUP:	1.0 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY	122	P
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
304-05	GROUP:	2.5 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY	118	P
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				
307-02	GROUP:	2.5 MG/KG/DAY	EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY	118	P
					GROSS: NO SIGNIFICANT CHANGES OBSERVED				

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	GRADE
332-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
			EPIDIDYMIDES	GROSS: SMALL			
			TESTES	GROSS: SMALL		RIGHT, APPROXIMATELY 50% SMALLER THAN LEFT	P
			TESTES	GROSS: TANNISH-PURPLE		RIGHT, 2.2 X 1.1 X 1.1 CM	P
				GROSS: TANNISH-PURPLE		RIGHT	P
338-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	1
			KIDNEYS	GROSS: DILATED PELVIS			
				GROSS: DILATED PELVIS		RIGHT	
340-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT		CHANGES OBSERVED	
340-07	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT		CHANGES OBSERVED	
342-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	
				GROSS: NO SIGNIFICANT		CHANGES OBSERVED	
343-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	
				GROSS: NO SIGNIFICANT		CHANGES OBSERVED	
351-08	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	
				GROSS: NO SIGNIFICANT		CHANGES OBSERVED	
356-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	P
			LIVER	GROSS: TAN AREA(S)			
			ORAL CAVITY	GROSS: IN BIFURCATION OF MEDIAL LOBE, ONE, 0.1 CM DIAMETER			
				GROSS: INCISOR(S) - MALALIGNED			
				GROSS: INCISOR(S) - MALALIGNED		LEFT UPPER	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	GRADE
356-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	1
		KIDNEYS		GROSS: DILATED PELVIS			
				BILATERAL			
357-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	P
		THYMUS		GROSS: FOCI			
				BOTH LOBES; MULTIPLE; PINPOINT; DARK RED			
359-08	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	P
		ORAL CAVITY		GROSS: INCISOR(S) - MALALIGNED			
				LEFT UPPER			
		EXT. APPEARANCE		GROSS: HAIRCOAT - DARK MATERIAL			
				AROUND LEFT EYE, RED			
367-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
				GROSS: NO SIGNIFICANT	CHANGES OBSERVED		
368-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
				GROSS: NO SIGNIFICANT	CHANGES OBSERVED		
372-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
				GROSS: NO SIGNIFICANT	CHANGES OBSERVED		
373-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
				GROSS: NO SIGNIFICANT	CHANGES OBSERVED		
373-06	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
		KIDNEYS		GROSS: DILATED PELVIS			
				RIGHT			
382-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT	CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	2.5 MG/KG/DAY LIVER	MALE	SCHEDULED EUTHANASIA GROSS: TAN AREA(S)	9/23/99 STUDY DAY 121	GRADE
385-04	GROUP:	2.5 MG/KG/DAY LIVER	MALE	SCHEDULED EUTHANASIA GROSS: TAN AREA(S)	9/23/99 STUDY DAY 121	P
404-03	GROUP:	2.5 MG/KG/DAY KIDNEYS	MALE	SCHEDULED EUTHANASIA GROSS: DILATED PELVIS RIGHT	9/23/99 STUDY DAY 121	1
418-05	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/23/99 STUDY DAY 121	
421-03	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/23/99 STUDY DAY 121	
432-04	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/23/99 STUDY DAY 121	
439-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99 STUDY DAY 122	
444-01	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99 STUDY DAY 122	
445-03	GROUP:	2.5 MG/KG/DAY KIDNEYS	MALE	SCHEDULED EUTHANASIA GROSS: DILATED PELVIS RIGHT	9/24/99 STUDY DAY 122	1
625-02	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99 STUDY DAY 122	
303-03	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/20/99 STUDY DAY 118	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	EXT.	APPEARANCE	DATE	STUDY DAY	GRADE
316-02	5.0 MG/KG/DAY	MALE				9/20/99	STUDY DAY 118	
GROSS: NO SIGNIFICANT CHANGES OBSERVED								
326-05	5.0 MG/KG/DAY	MALE				9/20/99	STUDY DAY 118	P
GROSS: INCISOR(S) - MALALIGNED UPPERS AND LOWERS								
328-04	5.0 MG/KG/DAY	MALE				9/20/99	STUDY DAY 118	P
GROSS: HAIRCOAT - HAIRLOSS FORELIMBS								
344-05	5.0 MG/KG/DAY	MALE				9/20/99	STUDY DAY 118	P
GROSS: HAIRCOAT - HAIRLOSS FORELIMBS								
346-05	5.0 MG/KG/DAY	MALE				9/20/99	STUDY DAY 118	
GROSS: NO SIGNIFICANT CHANGES OBSERVED								
346-09	5.0 MG/KG/DAY	MALE				9/21/99	STUDY DAY 119	
GROSS: NO SIGNIFICANT CHANGES OBSERVED								
347-07	5.0 MG/KG/DAY	MALE				9/21/99	STUDY DAY 119	
GROSS: NO SIGNIFICANT CHANGES OBSERVED								
350-09	5.0 MG/KG/DAY	MALE				9/21/99	STUDY DAY 119	P
GROSS: HERNIA TENDINOUS PORTION; 1.0 X 0.7 CM; SUPERIOR SURFACE OF MEDIAL LIVER LOBE MISSHAPEN AND EXTENDS INTO THORACIC CAVITY								
								P
GROSS: INCISOR(S) - MALALIGNED UPPERS								
								P
GROSS: HAIRCOAT - DARK MATERIAL LEFT EYE; REDDISH-BLACK								

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	360-04 GROUP: 5.0 MG/KG/DAY EXT. APPEARANCE MALE	P
	GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	
ANIMAL NO.	361-04 GROUP: 5.0 MG/KG/DAY MALE	
	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	365-05 GROUP: 5.0 MG/KG/DAY MALE	1
	KIDNEYS	
	GROSS: DILATED PELVIS RIGHT	
ANIMAL NO.	374-04 GROUP: 5.0 MG/KG/DAY MALE	
	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	375-02 GROUP: 5.0 MG/KG/DAY MALE	
	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	381-02 GROUP: 5.0 MG/KG/DAY MALE	P
	THYMUS GLAND	
	GROSS: FOCI RIGHT LOBE; MULTIPLE; PINPOINT; DARK RED	
ANIMAL NO.	389-04 GROUP: 5.0 MG/KG/DAY MALE	
	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	393-06 GROUP: 5.0 MG/KG/DAY MALE	
	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO.	398-07 GROUP: 5.0 MG/KG/DAY MALE	P
	ORAL CAVITY	
	GROSS: INCISOR(S) - BROKEN RIGHT UPPER	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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GRADE

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY EXT. APPEARANCE	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	GRADE
402-06				SCHEDULED EUTHANASIA GROSS: HAIRCOAT - HAIRLOSS FORELIMBS			P
410-04				SCHEDULED EUTHANASIA GROSS: OPTIC NERVE - HYOPLASIA BILATERAL; NERVES APPEAR SMALLER THAN NORMAL	9/23/99	STUDY DAY 121	P
414-06				SCHEDULED EUTHANASIA GROSS: HAIRCOAT - DARK MATERIAL AROUND RIGHT EYE; RED	9/23/99	STUDY DAY 121	P
416-01				SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/23/99	STUDY DAY 121	
416-03				SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/23/99	STUDY DAY 121	
417-04				SCHEDULED EUTHANASIA GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	9/23/99	STUDY DAY 121	P
389-06				SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99	STUDY DAY 122	
436-02				SCHEDULED EUTHANASIA GROSS: HAIRCOAT - HAIRLOSS FORELIMBS	9/24/99	STUDY DAY 122	P
443-05				SCHEDULED EUTHANASIA GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99	STUDY DAY 122	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 122	GRADE
451-01	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 122	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
308-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
		ORAL CAVITY		GROSS: INCISOR(S) - MALALIGNED			
		EXT. APPEARANCE		UPPERS			
		EXT. APPEARANCE		GROSS: PINNA(E) - THICKENED			P
				BILATERAL			
				GROSS: HAIRCOAT - DARK MATERIAL			P
				AROUND EYES, RED			
318-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
319-07	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
327-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	P
		ORAL CAVITY		GROSS: INCISOR(S) - ABSENT			
				LEFT UPPER			
331-06	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
333-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/20/99	STUDY DAY 118	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
336-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
337-04	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/21/99	STUDY DAY 119	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

ANIMAL NO. 352-08 GROUP: 10.0 MG/KG/DAY MALE KIDNEYS SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: DILATED PELVIS RIGHT 1

ANIMAL NO. 358-04 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 362-02 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 364-03 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/21/99 STUDY DAY 119 GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 378-08 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 394-05 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 395-06 GROUP: 10.0 MG/KG/DAY MALE LUNG/BRONCHI SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: DARK RED AREA(S) ALL LOBES; SEVERAL; IRREGULARLY SHAPED P

ANIMAL NO. 396-01 GROUP: 10.0 MG/KG/DAY MALE ORAL CAVITY SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: INCISOR(S) - MALALIGNED UPPERS AND LOWERS P

EXT. APPEARANCE GROSS: HAIRCOAT - DARK MATERIAL AROUND EYES, RED P

ANIMAL NO. 399-02 GROUP: 10.0 MG/KG/DAY MALE DIAPHRAGM SCHEDULED EUTHANASIA 9/22/99 STUDY DAY 120 GROSS: THIN AREA(S) MUSCULO-TENDINOUS PORTION; TWO; 1.0 X 0.7 CM AND 0.3 X 0.2 CM PORTIONS OF SUPERIOR SURFACE OF MEDIAL LIVER LOBE MISSHAPEN AND EXTEND INTO THIN AREAS P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	GRADE
405-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/22/99	STUDY DAY 120	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
415-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	P
				GROSS: FOCI			
				ALL LOBES, MULTIPLE, UP TO 0.1 CM DIAMETER, TAN			
434-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
435-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
437-03	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
437-05	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
438-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/23/99	STUDY DAY 121	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
441-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY 122	1
				GROSS: DILATED PELVIS			
				RIGHT			
448-02	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	9/24/99	STUDY DAY 122	P
				GROSS: CONTENT ABNORMAL			
				SMALL AMOUNT OF WHITE CREAMY MATERIAL			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO. 626-02 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 627-07 GROUP: 10.0 MG/KG/DAY MALE SCHEDULED EUTHANASIA 9/24/99 STUDY DAY 122  
EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS  
FOREPAWS

P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 131	GRADE
306-05	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 131	P
311-13	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 130	P
317-13	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 132	P
321-10	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 132	P
323-12	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 132	P
345-05	GROUP:	0 MG/KG/DAY SPLEEN UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: GREY AREA(S) CAPSULAR SURFACE; MULTIPLE; UP TO 0.4 CM DIAMETER GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 130	P
345-08	GROUP:	0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY 129	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 348-13	GROUP: 0 MG/KG/DAY FEMALE MANDIBULAR L. N. UTERUS GROSS: REDDENED TWO GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 7	P
ANIMAL NO. 353-11	GROUP: 0 MG/KG/DAY FEMALE UTERUS EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FORELIMBS 6, 10	P
ANIMAL NO. 355-13	GROUP: 0 MG/KG/DAY FEMALE UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 8	P
ANIMAL NO. 371-03	GROUP: 0 MG/KG/DAY FEMALE UTERUS EXT. APPEARANCE GROSS: SWOLLEN TEAT(S) RIGHT INGUINAL AREA, ONE, REDDENED 6, 8	P
ANIMAL NO. 380-09	GROUP: 0 MG/KG/DAY FEMALE UTERUS OVIDUCTS GROSS: CYST(S) RIGHT; ONE; 0.3 CM DIAMETER; CLEAR FLUID FILLED 6, 10	P
ANIMAL NO. 384-13	GROUP: 0 MG/KG/DAY FEMALE UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 6	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

GRADE

ANIMAL NO. 388-13 GROUP: 0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 8 P

ANIMAL NO. 390-09 GROUP: 0 MG/KG/DAY JEJUNUM FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129  
GROSS: REDDENED PORTIONS P  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 5 P  
EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FOREPAWS P

ANIMAL NO. 390-11 GROUP: 0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/15/99 STUDY DAY 143  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 0, 9 P

ANIMAL NO. 400-10 GROUP: 0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 8 P

ANIMAL NO. 403-12 GROUP: 0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 7 P  
EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FOREPAWS P

ANIMAL NO. 408-12 GROUP: 0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131  
GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 9 P

ANIMAL NO. 426-14 GROUP: 0 MG/KG/DAY LIVER FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129  
GROSS: PALE AREA(S) TRANSVERSE ACROSS SUPERIOR SURFACE OF MEDIAL LOBE; 3.5 X  
0.3 CM; SLIGHTLY YELLOW IN COLOR P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	426-14 (CONTINUED)	LIVER	GROSS: FOCI	SUPERIOR SURFACE OF LEFT LOBE; ONE; 0.2 X 0.1 CM; LIGHT RED	GRADE
		OVARIES	GROSS: CYST(S)	LEFT; ONE; 0.2 CM DIAMETER; CLEAR FLUID FILLED	P
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)		P
		EXT. APPEARANCE	GROSS: HAIRCOAT - HAIRLOSS		P
			FORELIMBS		
ANIMAL NO.	427-14	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130	P
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	8, 7	
ANIMAL NO.	449-12	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129	P
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	9, 7	
ANIMAL NO.	628-07	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131	P
		SKIN	GROSS: NODULE(S)		
			THIRD DIGIT ON RIGHT FOREPAW, ONE, 0.2 CM DIAMETER, WHITE, FIRM		
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	8, 6	P
ANIMAL NO.	628-12	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129	P
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	8, 9	
ANIMAL NO.	310-04	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131	P
		ORAL CAVITY	GROSS: INCISOR(S) ABSENT		
		UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	7, 10	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

GRADE

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
312-08	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 7	STUDY DAY 130	P
313-07	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 5/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 7	STUDY DAY 133	P
314-12	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 3/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 9	STUDY DAY 131	P
324-12	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 4/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 7	STUDY DAY 132	P
	EXT. APPEARANCE				GROSS: HAIRCOAT - HAIRLOSS FORELIMBS		P
329-11	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 3/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 10	STUDY DAY 131	P
	EXT. APPEARANCE				GROSS: HAIRCOAT - HAIRLOSS RIGHT FORELIMB		P
329-12	GROUP:	1.0 MG/KG/DAY	FEMALE	UTERUS	SCHEDULED EUTHANASIA 10/ 1/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 5	STUDY DAY 129	P
354-10	GROUP:	1.0 MG/KG/DAY	FEMALE	EYES	SCHEDULED EUTHANASIA 10/ 1/99 GROSS: LESION LEFT - APPROXIMATELY 75% SMALLER THAN NORMAL; ENTIRE GLOBE YELLOW; NEOVASCULARIZATION	STUDY DAY 129	P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	354-10 (CONTINUED)	UTERUS	SCHEDULED EUTHANASIA	GRADE
ANIMAL NO.	354-10	UTERUS	GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 13, 5	P
ANIMAL NO.	363-11	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 6	P
ANIMAL NO.	377-09	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 2	P
ANIMAL NO.	397-15	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 8	P
ANIMAL NO.	406-04	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 8	P
ANIMAL NO.	409-09	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 7	P
ANIMAL NO.	411-10	GROUP: 1.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 9	P
ANIMAL NO.	411-11	GROUP: 1.0 MG/KG/DAY LUNG/BRONCHI UTERUS	FEMALE SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 128 GROSS: DARK RED AREA(S) ALL LOBES; SEVERAL; IRREGULARLY SHAPED GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 6	P P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 419-14	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 7	P
ANIMAL NO. 422-13	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 10	P
ANIMAL NO. 423-12	GROUP: 1.0 MG/KG/DAY LUNG/BRONCHI UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: FOCI ALL LOBES; MULTIPLE; PINPOINT TO 0.1 CM DIAMETER; DARK BROWN GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 6	P
ANIMAL NO. 428-15	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 11	P
ANIMAL NO. 429-12	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 4, 1 EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FORELIMBS, HINDLIMBS, AND ABDOMEN	P
ANIMAL NO. 429-14	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 8	P
ANIMAL NO. 430-17	GROUP: 1.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 13, 3	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 431-11	GROUP: 1.0 MG/KG/DAY UTERUS EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	P
ANIMAL NO. 440-15	GROUP: 1.0 MG/KG/DAY UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 4, 13	P
ANIMAL NO. 447-17	GROUP: 1.0 MG/KG/DAY UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 11	P
ANIMAL NO. 629-17	GROUP: 1.0 MG/KG/DAY UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 8	P
ANIMAL NO. 304-11	GROUP: 2.5 MG/KG/DAY UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 12, 5	P
ANIMAL NO. 307-13	GROUP: 2.5 MG/KG/DAY UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 4, 10	P
ANIMAL NO. 338-10	GROUP: 2.5 MG/KG/DAY URINARY BLADDER UTERUS GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 6	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 340-10	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FOREPAWS	P
ANIMAL NO. 342-05	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 11	P
ANIMAL NO. 351-11	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 6 EXT. APPEARANCE GROSS: PINNA(E) - THICKENED BILATERAL	P
ANIMAL NO. 351-12	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 11	P
ANIMAL NO. 359-13	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 9	P
ANIMAL NO. 367-08	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 12, 6	P
ANIMAL NO. 367-10	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 7	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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ANIMAL NO.	GROUP:	SEX	UTERUS	EXT. APPEARANCE	SCHEDULED EUTHANASIA	GRADE
368-10	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 5	P
372-09	2.5 MG/KG/DAY	FEMALE	UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 12, 6	P
373-08	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 8	P
382-08	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 11	P
382-09	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 2, 9	P
385-07	2.5 MG/KG/DAY	FEMALE	UTERUS		SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 4, 10	P
404-07	2.5 MG/KG/DAY	FEMALE	LUNG/BRONCHI UTERUS		SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 128 GROSS: FOCI ALL LOBES, MULTIPLE, PINPOINT, TAN GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 8	P
					GROSS: HAIRCOAT - DARK MATERIAL AROUND NOSE, RED	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 418-12	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 2	P
ANIMAL NO. 421-12	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 10	P
ANIMAL NO. 432-12	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 8 GROSS: HAIRCOAT - HAIRLOSS LEFT FORELIMB	P
ANIMAL NO. 439-11	GROUP: 2.5 MG/KG/DAY ORAL CAVITY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: INCISOR(S) - MALALIGNMENT BOTH UPPER GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 9	P
ANIMAL NO. 444-16	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 8	P
ANIMAL NO. 445-13	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 8	P
ANIMAL NO. 625-08	GROUP: 2.5 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 6	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	303-07 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 4	
		P
ANIMAL NO.	326-09 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 9	
		P
ANIMAL NO.	328-08 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 3, 12	
		P
ANIMAL NO.	330-01 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 12, 5	
		P
ANIMAL NO.	344-09 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5, 10	
		P
ANIMAL NO.	346-15 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 7	
		P
ANIMAL NO.	350-11 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 5	
	EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FORELIMBS	
		P
ANIMAL NO.	360-08 GROUP: 5.0 MG/KG/DAY UTERUS	FEMALE
	SCHEDULED EUTHANASIA 10/ 9/99 STUDY DAY 137 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 9	
		P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 361-13	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5, 10	P
ANIMAL NO. 365-09	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 5	P
ANIMAL NO. 374-09	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 10	P
ANIMAL NO. 375-12	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 6	P
ANIMAL NO. 381-11	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 6	P
ANIMAL NO. 393-14	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE EXT. APPEARANCE GROSS: PINNA(E) - THICKENED RIGHT 7, 11	P
ANIMAL NO. 398-10	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 4, 10	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 402-10	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FORELIMBS SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5,7	P
ANIMAL NO. 416-08	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FORELIMBS SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5,7	P
ANIMAL NO. 416-09	GROUP: 5.0 MG/KG/DAY KIDNEYS UTERUS FEMALE GROSS: DARK RED AREA(S) BILATERAL, CORTICAL SURFACE, MULTIPLE, UP TO 0.2 X 0.1 CM GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 6	P
ANIMAL NO. 417-13	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 6	P
ANIMAL NO. 436-08	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 5	P
ANIMAL NO. 436-12	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 5	P
ANIMAL NO. 443-12	GROUP: 5.0 MG/KG/DAY UTERUS FEMALE GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 5	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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ANIMAL NO.	GROUP:	5.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99 STUDY DAY 132	GRADE
451-16	GROUP:	5.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 9	10/ 4/99 STUDY DAY 132	P
308-14	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 8	10/ 1/99 STUDY DAY 129	P
318-04	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 0, 12	10/ 3/99 STUDY DAY 131	P
318-10	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 9	10/ 2/99 STUDY DAY 130	P
319-10	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 7	10/ 1/99 STUDY DAY 129	P
	EXT. APPEARANCE			GROSS: HAIRCOAT - HAIRLOSS FOREPAWS		P
327-04	GROUP:	10.0 MG/KG/DAY LIVER	FEMALE	SCHEDULED EUTHANASIA GROSS: TAN AREA(S) IN BIFURCATION OF MEDIAL LOBE, ONE, 0.2 X 0.1 CM	10/ 3/99 STUDY DAY 131	P
	UTERUS			GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 10		P
	EXT. APPEARANCE			GROSS: PINNA(E) - THICKENED BILATERAL		P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NIKCEL SULFATE HEXAHYDRATE STUDY IN RATS  
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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	GRADE
331-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131	1
		KIDNEYS		GROSS: DILATED PELVIS RIGHT	
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5, 0	P
333-06	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 8	
336-08	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 7	
337-07	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 8	
		EXT. APPEARANCE		GROSS: HAIRCOAT - HAIRLOSS LEFT FORELIMB	P
358-09	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5, 8	
364-13	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 132	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 10, 8	
378-10	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131	P
		UTERUS		GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 9	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	STUDY DAY	GRADE
394-11	11	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 9	129	P
395-15	15	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 6, 1	130	P
396-16	16	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 9, 8	132	P
405-08	08	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 8, 10	131	P
434-10	10	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 9	130	P
435-13	13	10.0 MG/KG/DAY UTERUS	FEMALE	EXT. APPEARANCE GROSS: HAIRCOAT - HAIRLOSS FOREPAWS		P
435-13	13	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 5, 10	130	P
437-08	08	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 11, 5	131	P
438-15	15	10.0 MG/KG/DAY UTERUS	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 9	130	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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		SCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	448-04	GROUP: 10.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 131 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 14, 8	P
ANIMAL NO.	434-08	GROUP: 10.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 130 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 7, 8	P
ANIMAL NO.	627-11	GROUP: 10.0 MG/KG/DAY UTERUS	FEMALE SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 129 GROSS: IMPLANTATION SCARS (LEFT, RIGHT) 13, 5	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA - TOTAL LITTER LOSS		GRADE
ANIMAL NO.	356-14	GROUP: 2.5 MG/KG/DAY
UTERUS	FEMALE	SCHEDULED EUTHANASIA 9/11/99 STUDY DAY 109
EXT. APPEARANCE	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	P
GENERAL COMMENT	1, 0; ONE EMPTY PLACENTA WITHIN LEFT HORN	P
	GROSS: HAIRCOAT - HAIRLOSS	P
	LEFT FOREPAW	P
	GROSS: TOTAL LITTER LOSS	
ANIMAL NO.	441-10	GROUP: 10.0 MG/KG/DAY
UTERUS	FEMALE	SCHEDULED EUTHANASIA 9/15/99 STUDY DAY 113
EXT. APPEARANCE	GROSS: PITTED	P
GENERAL COMMENT	LEFT; TWO; PINPOINT	P
	GROSS: IMPLANTATION SCARS (LEFT, RIGHT)	P
	GROSS: RETAINED PUP	P
	ONE SLIGHT TO MODERATELY AUTOLYZED PUP PRESENT IN RIGHT HORN	
	WITH A CROWN- RUMP LENGTH OF 4.3 CM	
	GROSS: SKIN - SCABBING	P
	VENTRAL THORAX	
	GROSS: TOTAL LITTER LOSS	P

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA - GESTATION DAY 25		GRADE
ANIMAL NO. 449-11	GROUP: 0 MG/KG/DAY FEMALE UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/13/99 STUDY DAY 111 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	P P
ANIMAL NO. 343-09	GROUP: 2.5 MG/KG/DAY FEMALE UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/13/99 STUDY DAY 111 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	P P
ANIMAL NO. 357-10	GROUP: 2.5 MG/KG/DAY FEMALE UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/14/99 STUDY DAY 112 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	P P
ANIMAL NO. 316-12	GROUP: 5.0 MG/KG/DAY FEMALE UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/16/99 STUDY DAY 114 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	P P
ANIMAL NO. 410-12	GROUP: 5.0 MG/KG/DAY FEMALE UTERUS EXT. APPEARANCE GENERAL COMMENT SCHEDULED EUTHANASIA 9/13/99 STUDY DAY 111 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: HAIRCOAT - HAIRLOSS LEFT FORELIMB GROSS: GESTATION DAY 25	P P P
ANIMAL NO. 362-04	GROUP: 10.0 MG/KG/DAY FEMALE UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/14/99 STUDY DAY 112 GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	P P
ANIMAL NO. 399-12	GROUP: 10.0 MG/KG/DAY FEMALE KIDNEYS UTERUS GENERAL COMMENT SCHEDULED EUTHANASIA 9/14/99 STUDY DAY 112 GROSS: DILATED PELVIS BILATERAL GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE GROSS: GESTATION DAY 25	1 P P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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ANIMAL NO. 415-12 GROUP: 10.0 MG/KG/DAY FEMALE SCHEDULED EUTHANASIA 9/14/99 STUDY DAY 112  
UTERUS GROSS: NONGRAVID -- AMMONIUM SULFIDE NEGATIVE  
GENERAL COMMENT GROSS: GESTATION DAY 25

GRADE

P  
P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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INDIVIDUAL F1 PARENTAL GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA - POSTBREEDING PERIOD DAY 25

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	GRADE
420-05	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
450-13	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
325-13	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
413-09	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
332-05	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
347-12	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
414-09	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P
352-12	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/26/99	STUDY DAY 124	
	UTERUS			GROSS: NONGRAVID -- AMMONIUM SULFIDE		NEGATIVE	P
	GENERAL COMMENT			GROSS: POSTBREEDING PERIOD DAY 25			P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

(1047)

SLI Study No. 3472.4

## APPENDIX NN

Individual F1 Implantation and Post-Implantation Loss Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX NN  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 IMPLANTATION AND POST-IMPLANTATION LOSS DATA

GROUP 1: 0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
306-05 G	15	15	0
311-13 G	16	16	0
317-13 G	13	12	1
321-10 G	10	9	1
323-12 G	14	12	2
345-05 G	15	13	2
345-08 G	16	14	2
348-13 G	13	13	0
353-11 G	16	16	0
355-13 G	16	16	0
371-03 G	14	12	2
380-09 G	16	16	0
384-13 G	13	13	0
388-13 G	15	15	0
390-09 G	16	15	1
390-11 G	9	9	0
400-10 G	19	17	2
403-12 G	13	13	0
408-12 G	16	14	2
426-14 G	14	12	2
427-14 G	15	14	1
449-12 G	16	14	2
628-07 G	14	14	0
628-12 G	17	16	1
MEAN	14.6	13.8	0.9
S. D.	2.14	2.09	0.90
N	24	24	24

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX NN  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 IMPLANTATION AND POST-IMPLANTATION LOSS DATA

GROUP 2: 1.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
310-04 G	17	17	0
312-08 G	15	12	3
313-07 G	16	15	1
314-12 G	17	14	3
324-12 G	17	15	2
329-11 G	16	15	1
329-12 G	16	13	3
354-10 G	18	18	0
363-11 G	16	16	0
377-09 G	12	12	0
397-15 G	19	18	1
406-04 G	17	15	2
409-09 G	14	13	1
411-10 G	17	15	2
411-11 G	17	17	0
419-14 G	17	17	0
422-13 G	17	16	1
423-12 G	12	12	0
428-15 G	17	16	1
429-12 G	5	1	4
429-14 G	18	17	1
430-17 G	16	15	1
431-11 G	17	17	0
440-15 G	19	17	2
447-17 G	17	16	1
629-17 G	17	16	1
MEAN	16.0	14.8	1.9
S. D.	2.80	3.33	1.13
N	26	26	26

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX NN  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 IMPLANTATION AND POST-IMPLANTATION LOSS DATA

GROUP 3: 2.5 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
304-11 G	14	14	0
307-13 G	16	15	1
338-10 G	14	14	0
340-10 G	19	17	2
342-05 G	17	13	4
351-11 G	14	12	2
351-12 G	17	16	1
356-14 G	0	0	0
359-13 G	18	15	3
367-08 G	18	18	0
367-10 G	16	14	2
368-10 G	14	14	0
372-09 G	18	13	5
373-08 G	15	13	2
382-08 G	18	16	2
382-09 G	11	11	0
385-07 G	14	12	2
404-07 G	15	15	0
418-12 G	8	6	2
421-12 G	18	16	2
432-12 G	16	16	0
439-11 G	18	17	1
444-16 G	16	15	1
445-13 G	15	15	0
625-08 G	15	14	1
MEAN	15.0	13.6	1.3
S. D.	3.96	3.72	1.35
N	25	25	25

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

APPENDIX NN  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 IMPLANTATION AND POST-IMPLANTATION LOSS DATA

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
303-07 G	15	12	3
326-09 G	15	13	2
328-08 G	15	13	2
330-01 G	17	13	4
344-09 G	15	14	1
346-15 G	18	17	1
350-11 G	16	15	1
360-08 G	16	16	0
361-13 G	15	14	1
365-09 G	13	12	1
374-09 G	18	17	1
375-12 G	14	14	0
381-11 G	15	13	2
393-14 G	18	15	3
398-10 G	14	12	2
402-10 G	12	10	2
416-08 G	12	11	1
416-09 G	16	15	1
417-13 G	14	14	0
436-08 G	13	14	0 a
436-12 G	16	16	0
443-12 G	15	14	1
451-16 G	17	16	1
MEAN	15.2	13.9	1.3
S. D.	1.75	1.83	1.06
N	23	23	23

G = GRAVID

NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.  
a THERE WERE 14 LIVE PUPS, BUT ONLY 13 IMPLANT SITES DETECTED.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX NN  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 IMPLANTATION AND POST-IMPLANTATION LOSS DATA

GROUP 5: 10.0 MG/KG/DAY

PREGNANCY STATUS	IMPLANTATION SCAR COUNT	NUMBER OF LIVE PUPS (DAY 0)	POST-IMPLANTATION LOSS
308-14 G	14	11	3
318-04 G	12	11	1
318-10 G	16	16	0
319-10 G	15	15	0
327-04 G	16	16	0
331-08 G	5	4	1
333-06 G	18	18	0
336-08 G	15	12	3
337-07 G	14	14	0
358-09 G	13	13	0
364-13 G	18	18	0
378-10 G	17	12	5
394-11 G	17	15	2
395-15 G	7	7	0
396-16 G	17	15	2
405-08 G	18	17	1
434-10 G	16	14	2
435-13 G	15	15	0
437-08 G	16	16	0
438-15 G	16	15	1
441-10 G	2	1	1
448-04 G	22	20	2
434-08 G	15	12	3
627-11 G	18	16	2
MEAN	14.7	13.5	1.2
S. D.	4.41	4.37	1.35
N	24	24	24

G = GRAVID  
NOTE: IMPLANTATION SCAR COUNT MINUS THE NUMBER OF LIVE PUPS (DAY 0) EQUALS POST-IMPLANTATION LOSS.

(1053)

SLI Study No. 3472.4

APPENDIX OO

Individual F1 Parental Absolute Organ Weight Data

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICREL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 1: 0 MG/KG/DAY

APPENDIX 00

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES	LIVER	
										YMS	LEFT			
306-01 M	641	2.39	0.0627	0.0156	0.81	4.18	1.62	1.49	1.28	0.27	1.77	1.86	3.61	28.54
306-02 M	564	2.38	0.0482	0.0131	0.75	4.02	1.91	1.41	1.35	0.33	2.09	1.68	3.45	19.50
311-06 M	561	2.26	0.0481	0.0127	0.73	3.43	0.96	1.12	1.28	0.33	1.61	1.63	3.23	17.94
317-04 M	541	2.21	0.0617	0.0137	0.90	4.24	2.03	1.55	1.44	0.33	1.86	1.92	3.78	19.33
321-01 M	568	2.14	0.0597	0.0118	0.73	3.91	1.70	1.14	1.47	0.36	2.05	2.03	4.04	18.64
321-04 M	588	2.23	0.0498	0.0116	0.97	4.60	1.67	1.17	1.67	0.43	2.19	2.17	4.37	20.29
323-05 M	535	2.20	0.0555	0.0132	0.91	4.35	1.52	1.40	1.47	0.32	1.86	1.89	3.73	19.46
323-06 M	552	2.32	0.0622	0.0151	0.94	4.01	1.45	0.95	1.55	0.31	1.88	1.93	3.80	17.31
345-01 M	644	2.45	0.0583	0.0127	1.06	4.28	1.66	1.03	1.45	0.35	1.90	2.03	3.92	23.81
348-04 M	567	2.18	0.0587	0.0126	0.85	4.31	1.77	1.09	1.50	0.31	1.83	1.83	3.66	23.33
353-06 M	565	2.12	0.0655	0.0129	0.87	4.23	1.70	1.22	1.28	0.25	1.91	1.89	3.77	18.18
355-05 M	489	2.15	0.0549	0.0117	0.74	3.66	1.66	1.85	1.32	0.30	1.83	1.82	3.64	16.37
371-01 M	554	2.42	0.0693	0.0148	0.69	4.78	1.66	1.20	1.62	0.40	2.17	2.14	4.30	19.47
380-04 M	618	2.37	0.0720	0.0142	1.02	4.42	2.20	1.32	1.45	0.33	1.92	1.82	3.72	22.53
384-05 M	673	2.16	0.0787	0.0153	0.87	4.18	2.09	1.31	1.35	0.31	1.81	1.76	3.57	21.54
388-03 M	681	2.20	0.0529	0.0148	0.89	4.71	1.54	1.18	1.44	0.36	1.79	1.79	3.55	22.63
390-04 M	516	2.24	0.0474	0.0107	0.74	3.83	1.90	1.19	1.28	0.28	1.70	1.68	3.37	20.02
400-06 M	537	2.16	0.0599	0.0138	0.80	4.23	2.32	1.07	1.44	0.30	1.82	1.82	3.63	15.85
355-02 M	597	2.19	0.0578	0.0110	0.91	4.24	1.45	1.13	1.33	0.32	1.83	1.83	3.65	20.97
403-06 M	603	2.26	0.0628	0.0162	0.75	4.25	1.57	1.38	1.39	0.32	2.06	2.04	4.08	19.89
408-03 M	506	2.18	0.0576	0.0117	0.65	3.92	1.77	1.06	1.32	0.29	1.76	1.75	3.51	18.84
420-02 M	613	2.31	0.0590	0.0136	0.86	4.48	1.67	1.66	1.39	0.31	1.80	1.81	3.60	20.87
425-07 M	533	2.12	0.0632	0.0126	0.88	3.70	2.17	0.65	1.42	0.34	1.98	1.95	3.93	17.41
426-05 M	537	2.02	0.0569	0.0129	0.77	3.99	1.23	1.12	1.22	0.27	1.54	1.54	3.09	18.83
427-02 M	558	2.33	0.0555	0.0131	0.87	4.06	1.97	1.22	1.48	0.34	1.82	1.89	3.68	20.55
449-05 M	672	2.42	0.0685	0.0155	0.87	4.76	1.93	1.35	1.42	0.35	1.87	1.79	3.65	22.15
450-06 M	756	2.12	0.0747	0.0159	1.01	5.08	2.28	1.14	1.52	0.38	2.06	2.07	4.12	27.17
628-04 M	635	2.12	0.0646	0.0259	0.73	4.85	2.02	0.76	1.29	0.30	1.72	1.73	3.44	22.02
MEAN	586	2.24	0.0602	0.0139	0.84	4.24	1.76	1.22	1.41	0.32	1.87	1.86	3.71	20.48
S.D.	61.5	0.112	0.00779	0.00280	0.105	0.383	0.313	0.248	0.109	0.039	0.154	0.150	0.292	2.904
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA			LIVER	
										EPIDIDYMIDES	YMS	TESTES		
310-01 M	440	2.01	0.0554	0.0114	0.69	3.45	1.41	1.34	1.27	0.31	1.76	1.80	3.53	13.12
312-03 M	547	2.22	0.0576	0.0103	0.75	4.06	1.61	1.00	1.40	0.33	1.85	1.90	3.75	17.68
312-06 M	639	2.22	0.0700	0.0144	0.84	5.07	1.91	1.18	1.37	0.33	1.76	1.71	3.47	24.78
313-03 M	603	2.30	0.0651	0.0104	0.82	3.62	1.77	1.23	1.37	0.27	1.71	1.71	3.43	19.23
314-03 M	626	2.21	0.0773	0.0134	1.00	4.95	1.17	1.33	1.42	0.34	1.76	1.79	3.55	24.56
324-02 M	618	2.14	0.0528	0.0120	0.85	4.18	1.36	0.87	1.26	0.31	1.58	1.62	3.20	20.35
325-08 M	585	2.22	0.0553	0.0101	0.74	3.65	1.85	1.18	1.22	0.29	1.77	1.75	3.51	18.14
329-05 M	648	2.15	0.0702	0.0121	0.95	3.96	2.04	1.15	1.40	0.32	1.90	1.82	3.73	21.59
363-06 M	708	2.24	0.0549	0.0154	0.89	4.65	1.78	1.17	1.40	0.31	1.77	1.87	3.62	23.71
377-05 M	647	2.21	0.0555	0.0134	1.03	4.40	1.66	1.19	1.48	0.36	1.94	1.98	3.92	22.45
397-02 M	510	2.19	0.0595	0.0114	0.83	3.35	1.53	1.16	1.34	0.30	1.92	1.84	3.76	16.20
397-06 M	636	2.30	0.0596	0.0107	1.18	4.23	1.83	1.00	1.34	0.30	1.80	1.80	3.60	22.09
406-07 M	628	2.26	0.0529	0.0119	1.00	4.51	1.24	1.14	1.55	0.34	1.77	1.83	3.60	20.86
409-03 M	524	2.03	0.0666	0.0147	0.71	3.73	1.96	1.09	1.37	0.29	1.69	1.75	3.45	16.99
411-01 M	541	2.26	0.0663	0.0147	0.93	3.98	1.96	0.92	1.27	0.33	1.76	1.80	3.55	21.54
413-04 M	558	2.20	0.0578	0.0083	0.87	3.79	1.61	1.51	1.33	0.33	1.87	1.88	3.72	15.18
419-10 M	585	2.20	0.0528	0.0142	0.84	4.29	2.50	1.23	1.47	0.31	1.76	1.83	3.59	20.81
422-04 M	456	2.21	0.0539	0.0144	0.87	5.06	0.97	0.57	0.99	0.21	1.62	1.46	2.87	10.43
428-03 M	611	2.13	0.0524	0.0124	0.77	4.36	2.04	1.10	1.38	0.36	1.77	1.83	3.58	19.16
428-09 M	615	2.27	0.0599	0.0138	0.85	4.56	1.76	1.43	1.42	0.32	1.79	1.83	3.61	20.15
429-06 M	531	2.19	0.0608	0.0121	0.69	3.93	1.80	1.05	1.30	0.35	2.01	1.91	3.90	17.60
430-06 M	522	2.15	0.0546	0.0119	0.88	3.99	2.08	0.94	1.25	0.30	1.78	1.80	3.57	17.74
431-03 M	554	2.05	0.0583	0.0138	0.94	4.29	1.57	1.00	1.26	0.27	1.77	1.81	3.55	19.38
440-04 M	615	2.14	0.0601	0.0138	0.85	4.38	1.83	1.02	1.25	0.25	1.70	1.74	3.43	22.20
447-02 M	595	2.14	0.0659	0.0132	0.89	4.39	2.02	1.08	1.46	0.31	2.03	2.11	4.12	21.96
629-07 M	566	2.16	0.0816	0.0125	0.97	3.81	2.26	0.80	1.44	0.35	1.91	1.91	3.81	17.81
MEAN	581	2.18	0.0607	0.0124	0.87	4.18	1.75	1.10	1.35	0.31	1.80	1.81	3.59	19.45
S.D.	61.6	0.075	0.00771	0.00170	0.113	0.462	0.341	0.198	0.111	0.034	0.107	0.118	0.236	3.388
N	26	26	26	26	26	26	26	26	26	26	26	26	26	26

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX 00  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES	LIVER
										LEFT	RIGHT		
304-05 M	577	2.21	0.0501	0.0148	0.69	4.12	1.37	1.42	1.46	1.46	1.46	1.75	3.42
307-02 M	564	2.19	0.0681	0.0141	0.82	3.99	1.66	1.08	1.34	1.34	1.73	1.80	3.53
332-02 M	681	2.29	0.0968	0.0143	1.07	5.14	1.65	1.03	1.26	1.26	3.10	1.01	4.10
338-01 M	652	2.29	0.0745	0.0155	0.88	4.81	1.83	2.21	1.57	1.57	2.03	2.03	4.01
340-01 M	601	2.27	0.0459	0.0125	0.83	4.25	2.03	1.55	1.69	1.69	2.27	2.25	4.50
340-07 M	629	2.33	0.0588	0.0160	0.78	4.38	1.91	1.23	1.48	1.48	1.91	1.95	3.85
342-03 M	653	2.16	0.0738	0.0146	0.89	3.82	1.87	1.43	1.42	1.42	1.94	1.94	3.89
343-03 M	545	2.16	0.0629	0.0050	0.89	3.97	1.97	0.89	1.53	1.53	1.94	1.97	3.90
351-08 M	733	2.29	0.0788	0.0158	1.25	5.14	1.78	1.13	1.21	1.21	1.76	1.78	3.55
356-01 M	563	2.20	0.0779	0.0177	0.88	3.90	1.53	1.17	1.55	1.55	1.98	1.94	3.92
356-02 M	649	2.25	0.0750	0.0124	0.90	4.34	2.58	1.49	1.39	1.39	2.01	2.00	4.00
357-04 M	619	2.17	0.0472	0.0133	0.67	4.40	1.61	1.18	1.58	1.58	1.85	1.82	3.65
359-08 M	603	2.24	0.0585	0.0157	1.06	4.30	1.79	0.94	1.20	1.20	1.60	1.64	3.24
367-03 M	629	2.28	0.0716	0.0117	0.96	4.11	1.11	0.91	1.23	1.23	2.00	2.04	4.02
368-04 M	554	2.13	0.0756	0.0126	0.71	3.86	2.43	0.87	1.33	1.33	1.60	1.60	3.19
372-04 M	607	2.24	0.0592	0.0120	0.95	4.45	2.22	1.21	1.22	1.22	1.80	1.88	3.67
373-04 M	681	2.39	0.0685	0.0160	1.09	5.05	1.96	1.25	1.49	1.49	1.79	1.77	3.58
373-06 M	645	2.22	0.0694	0.0138	0.87	4.45	1.59	1.04	1.42	1.42	2.02	2.05	4.07
382-03 M	553	2.19	0.0579	0.0140	0.70	4.18	1.77	1.08	1.24	1.24	1.72	1.72	3.46
385-04 M	578	2.24	0.0593	0.0141	0.84	4.33	1.29	1.23	1.24	1.24	1.72	1.78	3.51
404-03 M	499	2.08	0.0536	0.0134	0.82	3.63	1.37	0.92	1.27	1.27	1.90	1.94	3.82
418-05 M	521	2.26	0.0568	0.0119	0.66	3.92	1.97	0.83	1.36	1.36	1.86	1.84	3.69
421-03 M	684	2.24	0.0628	0.0130	0.87	4.73	1.75	1.35	1.32	1.32	1.61	1.64	3.23
432-04 M	559	1.97	0.0685	0.0112	0.87	3.94	1.25	0.88	1.18	1.18	1.51	1.57	3.07
439-02 M	601	2.17	0.0782	0.0140	0.90	4.45	2.01	0.88	1.37	1.37	1.88	1.81	3.69
444-01 M	502	2.13	0.0482	0.0115	0.81	3.71	1.76	0.95	1.22	1.22	1.76	1.75	3.50
445-03 M	672	2.16	0.0869	0.0121	0.74	4.39	1.93	1.38	1.18	1.18	1.76	1.77	3.52
625-02 M	556	2.30	0.0583	0.0114	0.70	3.98	1.85	0.85	1.32	1.32	1.74	1.81	3.56
MEAN	604	2.22	0.0658	0.0134	0.86	4.28	1.78	1.16	1.36	1.36	1.88	1.82	3.68
S.D.	59.4	0.084	0.01234	0.00234	0.139	0.410	0.333	0.297	0.141	0.141	0.290	0.220	0.322
N	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.



APPENDIX 00  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA EPIDIDYMIDES		TESTES	LIVER	
										LEFT	RIGHT			
303-03 M	585	2.23	0.0646	0.0100	0.70	3.97	1.61	1.46	1.35	0.26	1.60	1.59	3.19	19.00
316-02 M	631	2.17	0.0485	0.0138	1.04	4.76	2.02	1.19	1.35	0.31	1.79	1.74	3.52	20.35
326-05 M	611	2.22	0.0700	0.0843	0.67	4.28	1.32	0.95	1.29	0.32	1.84	1.79	3.61	19.65
328-04 M	636	2.47	0.0629	0.0149	1.04	4.97	1.63	1.18	1.47	0.32	2.16	2.16	4.32	20.26
344-05 M	597	2.21	0.0592	0.0130	0.82	4.42	1.81	1.10	1.26	0.30	1.69	1.75	3.43	20.08
346-05 M	645	2.14	0.0766	0.0145	0.94	4.90	1.80	1.06	1.31	0.33	1.89	1.86	3.72	25.01
346-09 M	585	2.16	0.0753	0.0151	0.86	4.47	2.02	1.48	1.39	0.30	2.10	2.15	4.26	18.97
347-07 M	687	2.26	0.0720	0.0164	1.05	4.71	2.45	1.36	1.41	0.31	1.98	1.93	3.90	23.01
350-09 M	572	2.16	0.0815	0.0178	0.83	4.09	1.65	1.06	1.51	0.34	1.78	1.82	3.56	18.82
360-04 M	549	2.09	0.0584	0.0136	0.66	3.74	1.56	1.16	1.38	0.35	1.86	1.88	3.74	17.10
361-04 M	599	2.28	0.0675	0.0139	0.88	4.45	2.04	1.32	1.28	0.32	1.61	1.63	3.23	19.69
365-05 M	603	2.19	0.0646	0.0175	0.82	4.54	1.82	1.25	1.18	0.27	1.66	1.70	3.33	20.73
374-04 M	560	2.29	0.0723	0.0165	0.78	4.39	1.94	1.23	1.35	0.32	1.84	1.85	3.68	16.96
375-02 M	598	2.09	0.0795	0.0165	1.37	4.10	2.00	1.22	1.31	0.28	1.86	1.95	3.82	20.52
381-02 M	520	2.13	0.0616	0.0142	0.72	3.52	1.87	1.27	1.40	0.29	1.90	1.89	3.77	16.65
389-04 M	478	2.17	0.0541	0.0150	0.83	3.50	1.79	0.88	1.11	0.28	1.79	1.76	3.53	15.18
393-06 M	604	2.26	0.0691	0.0129	0.81	4.40	1.59	1.61	1.45	0.35	1.98	1.96	3.93	20.81
398-07 M	517	2.25	0.0810	0.0135	0.71	4.02	2.29	1.11	1.58	0.37	2.02	2.07	4.09	15.64
402-06 M	634	2.25	0.0731	0.0125	0.87	3.78	2.03	1.39	1.32	0.34	1.81	1.81	3.60	18.29
410-04 M	596	2.30	0.0581	0.0119	0.78	4.44	2.00	1.59	1.32	0.31	1.88	1.98	3.80	18.86
414-06 M	559	2.29	0.0746	0.0161	0.78	3.63	1.76	1.10	1.30	0.28	1.91	1.86	3.78	17.05
416-01 M	512	2.29	0.0637	0.0133	0.98	3.65	1.99	1.22	1.35	0.28	1.99	2.02	3.99	17.27
416-03 M	556	2.25	0.0584	0.0146	0.90	3.98	1.35	1.23	1.26	0.30	1.78	1.83	3.61	19.17
417-04 M	548	2.13	0.0531	0.0131	0.67	3.56	1.82	1.18	1.19	0.30	1.71	1.66	3.37	15.19
389-06 M	503	2.25	0.0730	0.0142	0.82	3.68	1.40	1.08	1.23	0.28	1.70	1.75	3.44	17.65
436-02 M	687	2.27	0.0549	0.0132	1.10	4.26	1.71	0.93	1.28	0.24	1.80	1.77	3.56	25.03
443-05 M	551	2.20	0.0606	0.0118	0.78	3.92	1.81	0.97	1.36	0.31	1.76	1.69	3.43	16.02
451-01 M	646	2.38	0.0692	0.0144	0.80	4.31	1.93	0.77	1.36	0.31	1.94	1.87	3.81	18.12
MEAN	585	2.23	0.0663	0.0142	0.86	4.16	1.82	1.19	1.33	0.31	1.84	1.85	3.68	18.97
S.D.	53.0	0.084	0.00894	0.00180	0.156	0.428	0.259	0.203	0.100	0.029	0.137	0.145	0.281	2.547
N	28	28	28	27	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.

APPENDIX 00  
AN ORAL 2-GENERATION NICREL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA		TESTES	LIVER	
										EPIDIDYMIDES	YMS			
308-02 M	491	2.18	0.0510	0.0105	0.80	3.46	1.32	0.54	1.21	0.26	1.63	1.59	3.21	13.85
318-03 M	648	2.31	0.0631	0.0125	0.88	4.39	1.91	0.82	1.47	0.38	1.97	3.99 a	3.98	21.28
319-07 M	526	2.19	0.0666	0.0125	0.96	3.51	1.93	1.11	1.32	0.31	1.75	1.74	3.47	17.50
327-02 M	634	2.26	0.0749	0.0140	0.84	4.64	1.95	1.67	1.45	0.28	1.97	1.94	3.89	21.02
331-06 M	514	2.17	0.0543	0.0110	0.81	4.25	1.69	1.00	1.20	0.28	1.57	1.58	3.16	16.47
333-04 M	459	2.20	0.0538	0.0120	0.69	3.28	1.38	0.75	1.17	0.31	1.64	1.72	3.33	14.44
336-02 M	574	2.24	0.0729	0.0128	0.97	4.45	1.40	1.54	1.52	0.38	2.03	1.95	3.97	18.02
337-04 M	634	2.25	0.0720	0.0159	0.93	4.78	1.72	1.13	1.56	0.40	1.93	2.00	3.94	22.38
352-08 M	557	2.20	0.0622	0.0101	0.82	3.71	1.83	0.78	1.28	0.29	1.76	1.78	3.53	17.75
358-04 M	596	2.33	0.0588	0.0133	0.94	4.39	1.83	1.57	1.62	0.35	1.87	1.91	3.79	19.49
362-02 M	615	2.32	0.0703	0.0155	1.00	3.90	1.84	1.08	1.27	0.30	1.77	1.77	3.52	19.76
364-03 M	537	2.31	0.0745	0.0132	0.95	4.25	1.78	1.11	1.30	0.32	1.76	1.80	3.55	18.37
378-08 M	532	2.21	0.0553	0.0112	0.84	4.16	1.42	1.30	1.30	0.30	1.64	1.68	3.33	17.40
394-05 M	508	2.18	0.0584	0.0128	0.78	3.76	1.37	0.90	1.32	0.30	2.17	2.16	4.36	14.39
395-06 M	556	2.20	0.0676	0.0148	0.79	3.84	1.98	1.15	1.42	0.33	1.76	1.70	3.46	17.28
396-01 M	498	2.15	0.0832	0.0145	0.86	3.67	1.84	1.02	1.22	0.29	1.83	1.80	3.63	18.09
399-02 M	676	2.28	0.0750	0.0135	0.97	4.38	1.94	1.03	1.36	0.30	1.93	2.00	3.93	21.19
405-05 M	564	2.21	0.0718	0.0138	0.83	4.19	1.64	0.97	1.21	0.27	1.84	1.78	3.62	17.95
415-02 M	550	2.20	0.0615	0.0135	0.73	3.40	1.96	0.94	1.20	0.26	1.72	1.67	3.38	15.71
434-02 M	612	2.27	0.0584	0.0154	0.88	4.60	1.71	1.35	1.39	0.34	2.04	2.07	4.09	19.69
435-03 M	626	2.12	0.0533	0.0128	0.91	4.10	1.70	0.88	1.33	0.33	1.82	1.81	3.60	20.96
437-03 M	752	2.38	0.0982	0.0137	0.90	5.00	1.93	1.08	1.48	0.36	2.18	2.19	4.35	22.59
437-05 M	640	2.29	0.0751	0.0125	0.92	4.49	0.99	1.28	1.36	0.34	1.97	1.88	3.85	20.48
438-02 M	582	2.35	0.0520	0.0126	0.93	4.15	1.43	1.23	1.45	0.33	1.99	1.99	3.96	15.82
441-02 M	600	2.22	0.0706	0.0140	0.97	4.34	2.01	1.19	1.53	0.40	2.00	1.89	3.99	20.79
448-02 M	724	2.17	0.0731	0.0136	1.26	5.72	2.41	1.14	1.28	0.27	1.85	1.87	3.71	27.33
626-02 M	644	2.38	0.0811	0.0143	0.92	4.90	2.44	0.84	1.35	0.31	1.72	1.76	3.47	21.24
627-07 M	506	2.09	0.0521	0.0117	0.74	3.56	1.73	1.02	1.08	0.26	1.39	1.21	2.59	16.01
MEAN	584	2.24	0.0665	0.0131	0.89	4.19	1.75	1.08	1.34	0.32	1.84	1.82	3.67	18.83
S.D.	70.9	0.076	0.01133	0.00145	0.109	0.553	0.315	0.256	0.131	0.041	0.180	0.198	0.378	2.981
N	28	28	28	28	28	28	28	28	28	28	28	27	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.

APPENDIX 00  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY								
306-05 F	368	2.08	0.0801	0.0990	0.0173	0.57	3.03	0.55	19.41				
311-13 F	298	1.87	0.0581	0.0826	0.0151	0.52	2.33	0.45	15.34				
317-13 F	350	1.98	0.0835	0.1161	0.0159	0.65	2.86	0.45	16.72				
321-10 F	339	1.95	0.0882	0.1226	0.0163	0.66	2.90	0.41	16.04				
323-12 F	313	1.95	0.0721	0.1062	0.0179	0.59	2.66	0.49	15.03				
345-05 F	359	2.08	0.0832	0.1160	0.0190	0.73	2.74	0.49	17.43				
345-08 F	373	2.24	0.0955	0.1019	0.0194	0.74	3.05	0.55	18.22				
348-13 F	375	2.27	0.0857	0.0916	0.0201	0.54	2.90	0.42	19.34				
353-11 F	323	2.03	0.0804	0.0994	0.0124	0.61	2.59	0.37	15.59				
355-13 F	369	2.10	0.0681	0.0724	0.0115	0.66	2.89	0.46	16.63				
371-03 F	351	2.06	0.0782	0.0634	0.0161	0.57	2.95	0.62	17.90				
380-09 F	340	2.11	0.0893	0.1101	0.0144	0.52	2.96	0.45	18.86				
384-13 F	339	1.97	0.0794	0.1029	0.0147	0.51	2.65	0.41	17.04				
388-13 F	332	2.04	0.0739	0.0985	0.0161	0.49	2.41	0.34	15.02				
390-09 F	342	2.05	0.0837	0.1078	0.0161	0.64	2.67	0.44	17.10				
390-11 F	324	2.09	0.0670	0.1005	0.0163	0.56	2.55	0.26	15.58				
400-10 F	347	1.92	0.0640	0.0903	0.0188	0.55	2.69	0.41	16.13				
403-12 F	304	2.14	0.0635	0.0858	0.0141	0.56	2.43	0.57	14.82				
408-12 F	338	1.95	0.0580	0.1045	0.0153	0.55	2.42	0.28	16.20				
426-14 F	339	1.98	0.0911	0.1033	0.0171	0.76	2.73	0.72	16.78				
427-14 F	363	2.09	0.0789	0.1014	0.0154	0.69	3.21	0.41	17.92				
449-12 F	364	2.17	0.0766	0.1166	0.0172	0.59	2.89	0.40	16.60				
628-07 F	338	2.04	0.0701	0.1114	0.0193	0.53	2.81	0.41	17.20				
628-12 F	377	2.11	0.0634	0.0981	0.0174	0.53	2.91	0.64	18.37				
MEAN	344	2.05	0.0763	0.1001	0.0164	0.60	2.76	0.46	16.89				
S.D.	21.9	0.097	0.01054	0.01392	0.00214	0.077	0.227	0.108	1.347				
N	24	24	24	24	24	24	24	24	24				

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX 00  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	GLAND	OVARIES	TARY				
310-04 F	306	1.91	0.0675	0.1086	0.0165	0.60	2.55	0.33	13.60			
312-08 F	269	1.88	0.0702	0.0949	0.0127	0.47	2.50	0.31	11.71			
313-07 F	355	2.05	0.0923	0.0926	0.0149	0.69	2.70	0.51	15.25			
314-12 F	366	2.09	0.0872	0.1030	0.0154	0.62	2.73	0.34	17.67			
324-12 F	356	2.00	0.1055	0.1415	0.0186	0.59	3.50	0.50	17.59			
329-11 F	357	2.04	0.0748	0.0875	0.0167	0.70	2.87	0.48	15.95			
329-12 F	376	2.12	0.0787	0.1133	0.0157	0.77	3.22	0.31	16.79			
354-10 F	370	2.08	0.0907	0.1166	0.0133	0.67	3.31	0.35	18.03			
363-11 F	340	2.04	0.0765	0.0124	0.0148	0.55	2.50	0.37	16.32			
377-09 F	377	2.07	0.0663	0.0833	0.0182	0.63	2.65	0.46	17.47			
397-15 F	358	2.06	0.1025	0.0867	0.0134	0.56	2.87	0.38	17.30			
406-04 F	326	1.98	0.0687	0.1008	0.0146	0.63	2.64	0.44	14.57			
409-09 F	335	1.83	0.0683	0.1012	0.0186	0.57	2.47	0.35	15.15			
411-10 F	353	1.99	0.0810	0.1274	0.0162	0.61	2.43	0.46	16.74			
411-11 F	348	2.04	0.0756	0.1389	0.0142	0.75	2.68	0.39	15.99			
419-14 F	341	2.00	0.0828	0.1049	0.0163	0.61	2.88	0.54	18.71			
422-13 F	348	2.04	0.0807	0.1247	0.0202	0.74	2.91	0.39	16.47			
423-12 F	236	1.82	0.0728	0.0825	0.0093	0.48	2.00	0.21	11.65			
428-15 F	365	2.08	0.0763	0.0981	0.0150	0.60	2.93	0.31	17.24			
429-12 F	350	2.20	0.0821	0.1323	0.0187	0.68	2.96	0.40	15.13			
429-14 F	351	1.99	0.0913	0.1065	0.0169	0.67	2.88	0.33	17.72			
430-17 F	330	1.94	0.0754	0.1174	0.0157	0.53	2.71	0.39	14.61			
431-11 F	362	1.95	0.0870	0.0788	0.0189	0.72	2.96	0.49	17.25			
440-15 F	391	2.03	0.0905	0.1247	0.0150	0.75	3.08	0.48	16.82			
447-17 F	339	2.08	0.0743	0.1111	0.0120	0.68	2.73	0.37	18.34			
629-17 F	323	1.97	0.0988	0.1073	0.0114	0.82	2.53	0.52	14.64			
MEAN	343	2.01	0.0815	0.1037	0.0155	0.64	2.78	0.40	16.10			
S.D.	32.8	0.087	0.01088	0.02537	0.00256	0.088	0.309	0.082	1.844			
N	26	26	26	26	26	26	26	26	26			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX 00  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY								
304-11 F	378	2.07	0.0783	0.0894	0.0239	0.66	3.09	0.47	19.25				
307-13 F	339	1.87	0.0721	0.1107	0.0167	0.59	2.47	0.36	16.14				
338-10 F	345	2.05	0.0881	0.1116	0.0142	0.69	2.85	0.37	15.76				
340-10 F	420	2.00	0.0803	0.1142	0.0194	0.64	2.95	0.59	19.46				
342-05 F	329	1.88	0.0683	0.0882	0.0142	0.58	2.36	0.42	15.13				
351-11 F	377	1.86	0.0813	0.0911	0.0217	0.73	2.90	0.41	17.13				
351-12 F	420	2.04	0.0856	0.1292	0.0208	0.75	2.90	0.41	17.55				
359-13 F	385	2.03	0.0983	0.1263	0.0138	0.60	2.82	0.49	16.43				
367-08 F	351	2.09	0.0841	0.1125	0.0164	0.54	2.58	0.42	15.85				
367-10 F	342	2.03	0.0801	0.1111	0.0141	0.70	2.64	0.47	16.18				
368-10 F	328	2.02	0.0839	0.1070	0.0133	0.53	2.68	0.47	15.81				
372-09 F	367	1.96	0.0915	0.1192	0.0182	0.49	2.83	0.39	16.28				
373-08 F	296	1.96	0.0688	0.0958	0.0110	0.49	2.32	0.31	13.77				
382-08 F	320	2.07	0.0732	0.1144	0.0197	0.57	2.83	0.40	16.85				
382-09 F	332	2.04	0.0806	0.0874	0.0178	0.53	2.64	0.39	15.28				
385-07 F	335	2.00	0.0875	0.1037	0.0172	0.56	2.85	0.46	15.97				
404-07 F	329	1.93	0.0731	0.1166	0.0145	0.62	2.82	0.39	15.01				
418-12 F	325	2.01	0.0737	0.0933	0.0125	0.54	2.40	0.39	13.47				
421-12 F	349	1.92	0.0808	0.1016	0.0181	0.52	2.75	0.39	16.14				
432-12 F	337	2.02	0.0811	0.0936	0.0163	0.54	2.45	0.55	17.17				
439-11 F	356	1.98	0.0824	0.0923	0.0150	0.56	2.37	0.38	16.29				
444-16 F	351	2.05	0.0720	0.0889	0.0167	0.66	2.65	0.50	16.29				
445-13 F	367	2.00	0.0939	0.1101	0.0198	0.70	3.08	0.34	17.21				
625-08 F	347	2.06	0.0764	0.1263	0.0151	0.50	2.71	0.30	16.17				
MEAN	351	2.01	0.0806	0.1056	0.0167	0.61	2.71	0.42	16.27				
S.D.	29.4	0.077	0.00776	0.01320	0.00313	0.082	0.223	0.070	1.355				
N	24	24	24	24	24	24	24	24	24				

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX 00  
AN ORAL 2-GENERATION NICREL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL			PITUIT-			SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY	UTERUS	LIVER				
303-07 F	366	2.00	0.0686	0.1280	0.0139	0.65	2.66	0.52	14.97		
326-09 F	329	1.96	0.0778	0.0794	0.0158	0.50	2.63	0.58	15.81		
328-08 F	308	2.19	0.0879	0.1085	0.0154	0.71	2.69	0.53	13.26		
330-01 F	324	1.99	0.0786	0.1003	0.0178	0.50	2.92	0.52	16.89		
344-09 F	327	2.10	0.0898	0.0941	0.0172	0.52	2.59	0.33	13.02		
346-15 F	330	1.87	0.0735	0.1178	0.0113	0.58	2.97	0.47	16.64		
350-11 F	378	2.01	0.0815	0.1354	0.0154	0.69	3.02	0.29	17.57		
360-08 F	333	2.03	0.0745	0.1251	0.0187	0.47	2.74	0.46	16.28		
361-13 F	336	1.99	0.0879	0.0987	0.0164	0.57	2.60	0.47	15.40		
365-09 F	380	2.07	0.0722	0.1159	0.0182	0.72	2.96	0.30	18.38		
374-09 F	351	2.17	0.0942	0.1317	0.0184	0.61	3.02	0.42	19.51		
375-12 F	322	1.98	0.0732	0.1129	0.0161	0.63	2.63	0.35	13.71		
381-11 F	351	2.06	0.0925	0.1244	0.0167	0.79	2.91	0.38	20.19		
393-14 F	383	1.96	0.0936	0.1332	0.0132	0.62	2.77	0.57	19.33		
398-10 F	335	2.07	0.0865	0.0941	0.0148	0.68	2.55	0.35	15.29		
402-10 F	346	2.01	0.0754	0.0905	0.0144	0.52	2.49	0.32	15.84		
416-08 F	348	2.13	0.0823	0.1195	0.0170	0.85	2.57	0.53	16.04		
416-09 F	335	2.15	0.0803	0.1018	0.0162	0.67	2.89	0.99	15.97		
417-13 F	336	2.09	0.0873	0.1083	0.0146	0.61	2.49	0.32	15.12		
436-08 F	414	2.09	0.0755	0.1120	0.0148	0.68	2.86	0.36	19.90		
436-12 F	394	2.06	0.0892	0.1286	0.0161	0.67	2.67	0.33	18.30		
443-12 F	316	2.01	0.0812	0.0944	0.0153	0.57	2.46	0.53	15.40		
451-16 F	380	2.13	0.0916	0.1327	0.0195	0.62	3.03	0.49	16.55		
MEAN	349	2.05	0.0824	0.1124	0.0160	0.63	2.74	0.45	16.49		
S.D.	27.7	0.077	0.00773	0.01600	0.00190	0.094	0.189	0.151	2.026		
N	23	23	23	23	23	23	23	23	23		

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX 00  
AN ORAL 2-GENERATION NICREL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ABSOLUTE ORGAN WEIGHT DATA (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	GLAND	OVARIES	TARY				
308-14 F	311	1.92	0.0804	0.0828	0.0115	0.65	2.45	0.46	14.37			
318-04 F	352	2.03	0.0824	0.1046	0.0149	0.65	2.79	0.32	16.81			
318-10 F	343	2.11	0.0815	0.1083	0.0187	0.63	2.85	0.43	15.16			
319-10 F	340	2.16	0.0759	0.0834	0.0146	0.64	2.58	0.47	15.70			
327-04 F	368	2.10	0.0919	0.1080	0.0148	0.65	2.84	0.41	15.46			
331-08 F	338	2.00	0.0730	0.1017	0.0143	0.61	2.94	0.35	14.38			
333-06 F	325	2.10	0.0909	0.1339	0.0165	0.62	2.58	0.43	14.10			
336-08 F	334	2.17	0.0810	0.1215	0.0170	0.74	2.73	0.43	14.34			
337-07 F	359	2.14	0.1010	0.1061	0.0172	0.59	2.79	0.61	15.88			
358-09 F	348	1.98	0.0764	0.0975	0.0140	0.62	2.78	0.40	14.73			
364-13 F	341	1.98	0.0884	0.1336	0.0149	0.71	2.83	0.29	15.79			
378-10 F	412	2.05	0.0820	0.1113	0.0155	0.72	3.04	0.45	19.38			
394-11 F	324	1.96	0.0748	0.1171	0.0125	0.58	3.35	0.54	14.63			
395-15 F	310	2.02	0.0612	0.1005	0.0145	0.55	2.33	0.38	12.61			
396-16 F	356	2.10	0.0934	0.1157	0.0150	0.61	3.04	0.56	16.72			
405-08 F	330	1.95	0.0668	0.1064	0.0139	0.48	2.77	0.32	17.08			
434-10 F	387	2.01	0.0942	0.1521	0.0160	0.69	3.14	0.42	20.70			
435-13 F	330	2.11	0.0918	0.0878	0.0155	0.64	2.89	0.55	16.16			
437-08 F	370	2.09	0.0757	0.1316	0.0165	0.71	2.67	0.33	17.96			
438-15 F	318	2.03	0.0960	0.1039	0.0151	0.69	2.63	0.46	13.64			
448-04 F	412	2.07	0.1076	0.1204	0.0156	0.67	3.29	0.42	19.65			
434-08 F	344	1.87	0.0725	0.1283	0.0125	0.55	2.76	0.33	17.02			
627-11 F	360	2.07	0.0802	0.1146	0.0201	0.62	2.67	0.71	18.60			
MEAN	348	2.04	0.0834	0.1118	0.0153	0.64	2.81	0.44	16.12			
S.D.	27.7	0.078	0.01120	0.01696	0.00192	0.061	0.244	0.102	2.065			
N	23	23	23	23	23	23	23	23	23			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

(1064)

SLI Study No. 3472.4

APPENDIX PP

Individual F1 Parental Organ Weight to Body Weight Data



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

GROUP 1: 0 MG/KG/DAY

APPENDIX PP

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	EPIDIDYMISES	TESTES		LIVER	
											LEFT	RIGHT		
306-01 M	641	0.373	0.010	0.002	0.126	0.652	0.253	0.232	0.200	0.042	0.276	0.290	0.563	4.452
306-02 M	564	0.422	0.009	0.002	0.133	0.713	0.339	0.250	0.239	0.059	0.371	0.298	0.612	3.457
311-06 M	561	0.403	0.009	0.002	0.130	0.611	0.171	0.200	0.228	0.059	0.287	0.291	0.576	3.198
317-04 M	541	0.409	0.011	0.003	0.166	0.784	0.375	0.287	0.266	0.061	0.344	0.355	0.699	3.573
321-01 M	568	0.377	0.011	0.002	0.129	0.688	0.299	0.201	0.259	0.063	0.361	0.357	0.711	3.282
321-04 M	588	0.379	0.008	0.002	0.165	0.782	0.284	0.199	0.284	0.073	0.372	0.369	0.743	3.451
323-05 M	535	0.411	0.010	0.002	0.170	0.813	0.284	0.262	0.275	0.060	0.348	0.353	0.697	3.637
323-06 M	552	0.420	0.011	0.003	0.170	0.726	0.263	0.172	0.281	0.056	0.341	0.350	0.688	3.136
345-01 M	644	0.380	0.009	0.002	0.165	0.665	0.258	0.160	0.225	0.054	0.295	0.315	0.609	3.697
348-04 M	567	0.384	0.010	0.002	0.150	0.760	0.312	0.192	0.265	0.055	0.323	0.323	0.646	4.115
353-06 M	565	0.375	0.012	0.002	0.154	0.749	0.301	0.216	0.227	0.044	0.338	0.335	0.667	3.218
355-05 M	489	0.440	0.011	0.002	0.151	0.748	0.339	0.378	0.270	0.061	0.374	0.372	0.744	3.348
371-01 M	554	0.437	0.013	0.003	0.125	0.863	0.300	0.217	0.292	0.072	0.392	0.386	0.776	3.514
380-04 M	618	0.383	0.012	0.002	0.165	0.715	0.356	0.214	0.235	0.053	0.311	0.294	0.602	3.646
384-05 M	673	0.321	0.012	0.002	0.129	0.621	0.311	0.195	0.201	0.046	0.269	0.262	0.530	3.201
388-03 M	681	0.323	0.008	0.002	0.131	0.692	0.226	0.173	0.211	0.053	0.263	0.263	0.521	3.323
390-04 M	516	0.434	0.009	0.002	0.143	0.742	0.368	0.231	0.248	0.054	0.329	0.326	0.653	3.880
400-06 M	537	0.402	0.011	0.003	0.149	0.788	0.432	0.199	0.268	0.056	0.339	0.339	0.676	2.952
355-02 M	597	0.367	0.010	0.002	0.152	0.710	0.260	0.189	0.223	0.054	0.307	0.307	0.611	3.513
403-06 M	603	0.375	0.010	0.003	0.124	0.705	0.263	0.229	0.231	0.053	0.342	0.338	0.677	3.299
408-03 M	506	0.431	0.011	0.002	0.128	0.775	0.350	0.209	0.261	0.057	0.348	0.346	0.694	3.723
420-02 M	613	0.377	0.010	0.002	0.140	0.731	0.272	0.271	0.227	0.051	0.294	0.295	0.587	3.405
425-07 M	533	0.398	0.012	0.002	0.165	0.694	0.407	0.122	0.266	0.064	0.371	0.366	0.737	3.266
426-05 M	537	0.376	0.011	0.002	0.143	0.743	0.229	0.209	0.227	0.050	0.287	0.287	0.575	3.507
427-02 M	558	0.418	0.010	0.002	0.156	0.728	0.353	0.219	0.265	0.061	0.326	0.339	0.659	3.683
449-05 M	672	0.360	0.010	0.002	0.129	0.708	0.287	0.201	0.211	0.052	0.278	0.266	0.543	3.296
450-06 M	756	0.280	0.010	0.002	0.134	0.672	0.302	0.151	0.201	0.050	0.272	0.274	0.545	3.594
628-04 M	635	0.334	0.010	0.004	0.115	0.764	0.318	0.120	0.203	0.047	0.271	0.272	0.542	3.468
MEAN	586	0.385	0.0104	0.002	0.144	0.727	0.303	0.211	0.242	0.056	0.322	0.320	0.639	3.494
S.D.	61.5	0.0380	0.00122	0.0004	0.0167	0.0559	0.0577	0.0508	0.0282	0.0073	0.0382	0.0370	0.0735	0.3075
N	28	28	28	28	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX PP  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	EPIDIDYMS	TESTES		LIVER	
											LEFT	RIGHT		
310-01 M	440	0.457	0.013	0.003	0.157	0.784	0.320	0.305	0.289	0.070	0.400	0.409	0.802	2.982
312-03 M	547	0.406	0.011	0.002	0.137	0.742	0.294	0.183	0.256	0.060	0.338	0.347	0.686	3.232
312-06 M	639	0.347	0.011	0.002	0.131	0.793	0.299	0.185	0.214	0.052	0.275	0.268	0.543	3.878
313-03 M	603	0.381	0.011	0.002	0.136	0.600	0.294	0.204	0.227	0.045	0.284	0.284	0.569	3.189
314-03 M	626	0.353	0.012	0.002	0.160	0.791	0.187	0.212	0.227	0.054	0.281	0.286	0.567	3.923
324-02 M	618	0.346	0.009	0.002	0.138	0.676	0.220	0.141	0.204	0.050	0.256	0.262	0.518	3.293
325-08 M	585	0.379	0.009	0.002	0.126	0.624	0.316	0.202	0.209	0.050	0.303	0.299	0.600	3.101
329-05 M	648	0.332	0.011	0.002	0.147	0.611	0.315	0.177	0.216	0.049	0.293	0.281	0.576	3.332
363-06 M	708	0.316	0.008	0.002	0.126	0.657	0.251	0.165	0.198	0.044	0.250	0.264	0.511	3.349
377-05 M	647	0.342	0.009	0.002	0.159	0.680	0.257	0.184	0.229	0.056	0.300	0.306	0.606	3.470
397-02 M	510	0.429	0.012	0.002	0.163	0.657	0.300	0.227	0.263	0.059	0.376	0.361	0.737	3.176
397-06 M	636	0.362	0.009	0.002	0.186	0.665	0.288	0.157	0.211	0.047	0.283	0.283	0.566	3.473
406-07 M	628	0.360	0.008	0.002	0.159	0.718	0.197	0.182	0.247	0.054	0.282	0.291	0.573	3.322
409-03 M	524	0.387	0.013	0.002	0.135	0.712	0.374	0.208	0.261	0.055	0.323	0.334	0.658	3.242
411-01 M	541	0.418	0.012	0.003	0.172	0.736	0.362	0.170	0.235	0.061	0.325	0.333	0.656	3.982
413-04 M	558	0.394	0.010	0.001	0.156	0.679	0.289	0.271	0.238	0.059	0.335	0.337	0.667	2.720
419-10 M	585	0.376	0.009	0.002	0.144	0.733	0.427	0.210	0.251	0.053	0.301	0.313	0.614	3.557
422-04 M	456	0.485	0.012	0.003	0.191	1.110	0.213	0.125	0.217	0.046	0.355	0.320	0.629	2.287
428-03 M	611	0.349	0.009	0.002	0.126	0.714	0.334	0.180	0.226	0.059	0.290	0.300	0.586	3.136
428-09 M	615	0.369	0.010	0.002	0.138	0.741	0.286	0.233	0.231	0.052	0.291	0.298	0.587	3.276
429-06 M	531	0.412	0.011	0.002	0.130	0.740	0.339	0.198	0.245	0.066	0.379	0.360	0.734	3.315
430-06 M	522	0.412	0.010	0.002	0.169	0.764	0.398	0.180	0.239	0.057	0.341	0.345	0.684	3.398
431-03 M	554	0.370	0.011	0.002	0.170	0.774	0.283	0.181	0.227	0.049	0.319	0.327	0.641	3.498
440-04 M	615	0.348	0.010	0.002	0.138	0.712	0.298	0.166	0.203	0.041	0.276	0.283	0.558	3.610
447-02 M	595	0.360	0.011	0.002	0.150	0.738	0.339	0.182	0.245	0.052	0.341	0.355	0.692	3.691
629-07 M	566	0.382	0.014	0.002	0.171	0.673	0.399	0.141	0.254	0.062	0.337	0.337	0.673	3.147
MEAN	581	0.380	0.0106	0.002	0.151	0.724	0.303	0.191	0.233	0.054	0.313	0.315	0.624	3.330
S.D.	61.6	0.0389	0.00158	0.0004	0.0186	0.0953	0.0608	0.0384	0.0217	0.0070	0.0384	0.0360	0.0718	0.3566
N	26	26	26	26	26	26	26	26	26	26	26	26	26	26

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX PP  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	EPIDIDYMIDES	LEFT CAUDA TESTES				LIVER
										LEFT	RIGHT	TESTES	TESTES	
304-05 M	577	0.383	0.009	0.003	0.120	0.714	0.237	0.246	0.253	0.253	0.298	0.303	0.593	3.702
307-02 M	564	0.388	0.012	0.003	0.145	0.707	0.294	0.191	0.238	0.059	0.307	0.319	0.626	3.576
332-02 M	681	0.336	0.014	0.002	0.157	0.755	0.242	0.151	0.185	0.050	0.455	0.148	0.602	3.577
338-01 M	652	0.351	0.011	0.002	0.135	0.738	0.281	0.339	0.241	0.049	0.311	0.311	0.615	2.880
340-01 M	601	0.378	0.008	0.002	0.138	0.707	0.338	0.258	0.281	0.060	0.378	0.374	0.749	2.925
340-07 M	629	0.370	0.009	0.003	0.124	0.696	0.304	0.196	0.235	0.059	0.304	0.310	0.612	3.415
342-03 M	653	0.331	0.011	0.002	0.136	0.728	0.286	0.217	0.217	0.054	0.299	0.297	0.596	3.426
343-03 M	545	0.396	0.012	0.001	0.163	0.728	0.361	0.163	0.281	0.059	0.356	0.361	0.716	3.308
351-08 M	733	0.312	0.011	0.002	0.171	0.701	0.243	0.154	0.165	0.041	0.240	0.243	0.484	3.686
356-01 M	563	0.391	0.014	0.003	0.156	0.693	0.272	0.208	0.275	0.064	0.352	0.345	0.696	3.183
356-02 M	649	0.347	0.012	0.002	0.139	0.669	0.398	0.230	0.214	0.051	0.310	0.308	0.616	3.096
357-04 M	619	0.351	0.008	0.002	0.108	0.711	0.260	0.191	0.255	0.053	0.299	0.294	0.590	3.288
359-08 M	603	0.371	0.010	0.003	0.176	0.713	0.297	0.156	0.199	0.043	0.265	0.272	0.537	3.343
367-03 M	629	0.362	0.011	0.002	0.153	0.653	0.176	0.145	0.196	0.038	0.318	0.324	0.639	3.245
368-04 M	554	0.384	0.014	0.002	0.128	0.697	0.439	0.157	0.240	0.054	0.289	0.289	0.576	3.744
372-04 M	607	0.369	0.010	0.002	0.157	0.733	0.366	0.199	0.201	0.043	0.297	0.310	0.605	3.349
373-04 M	681	0.351	0.010	0.002	0.160	0.742	0.288	0.184	0.219	0.053	0.263	0.260	0.526	3.499
373-06 M	645	0.344	0.011	0.002	0.135	0.690	0.247	0.161	0.220	0.056	0.313	0.318	0.631	3.169
382-03 M	553	0.396	0.010	0.003	0.127	0.756	0.320	0.195	0.224	0.048	0.320	0.311	0.626	3.465
385-04 M	578	0.388	0.010	0.002	0.145	0.749	0.223	0.213	0.215	0.058	0.298	0.308	0.607	3.522
404-03 M	499	0.417	0.011	0.003	0.164	0.727	0.275	0.184	0.255	0.058	0.381	0.389	0.766	3.561
418-05 M	521	0.434	0.011	0.002	0.127	0.752	0.378	0.159	0.261	0.060	0.357	0.353	0.708	3.202
421-03 M	684	0.327	0.009	0.002	0.127	0.692	0.256	0.197	0.193	0.044	0.235	0.240	0.472	3.576
432-04 M	559	0.352	0.012	0.002	0.156	0.705	0.224	0.157	0.211	0.047	0.270	0.281	0.549	3.066
439-02 M	601	0.361	0.013	0.002	0.150	0.740	0.334	0.146	0.228	0.053	0.313	0.301	0.614	3.869
444-01 M	502	0.424	0.010	0.002	0.161	0.739	0.351	0.189	0.243	0.060	0.351	0.349	0.697	3.420
445-03 M	672	0.321	0.013	0.002	0.110	0.653	0.287	0.205	0.176	0.040	0.262	0.263	0.524	3.439
625-02 M	556	0.414	0.010	0.002	0.126	0.716	0.333	0.153	0.237	0.054	0.313	0.326	0.640	3.414
MEAN	604	0.370	0.0109	0.002	0.143	0.709	0.297	0.191	0.227	0.052	0.313	0.304	0.615	3.391
S.D.	59.4	0.0316	0.00168	0.0004	0.0182	0.0373	0.0595	0.0420	0.0305	0.0071	0.0464	0.0474	0.0725	0.2396
N	28	28	28	28	28	28	28	28	28	27	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.

APPENDIX PP  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	LEFT CAUDA				LIVER	
									YMDIES	EPIDIDYMS	TESTES LEFT	TESTES RIGHT		
303-03 M	585	0.381	0.011	0.002	0.120	0.679	0.275	0.250	0.231	0.044	0.274	0.272	0.545	3.248
316-02 M	631	0.344	0.008	0.002	0.165	0.754	0.320	0.189	0.214	0.049	0.284	0.276	0.558	3.225
326-05 M	611	0.363	0.011	0.014	0.110	0.700	0.216	0.155	0.211	0.052	0.301	0.293	0.591	3.216
328-04 M	636	0.388	0.010	0.002	0.164	0.781	0.256	0.186	0.231	0.050	0.340	0.340	0.679	3.186
344-05 M	597	0.370	0.010	0.002	0.137	0.740	0.303	0.184	0.211	0.050	0.283	0.293	0.575	3.363
346-05 M	645	0.332	0.012	0.002	0.146	0.760	0.279	0.164	0.203	0.051	0.293	0.288	0.577	3.878
346-09 M	585	0.369	0.013	0.003	0.147	0.764	0.345	0.253	0.238	0.051	0.359	0.368	0.728	3.243
347-07 M	687	0.329	0.010	0.002	0.153	0.686	0.357	0.198	0.205	0.045	0.288	0.281	0.568	3.349
350-09 M	572	0.378	0.014	0.003	0.145	0.715	0.288	0.185	0.264	0.059	0.311	0.318	0.622	3.290
360-04 M	549	0.381	0.011	0.002	0.120	0.681	0.284	0.211	0.251	0.064	0.339	0.342	0.681	3.115
361-04 M	599	0.361	0.011	0.002	0.147	0.743	0.341	0.220	0.214	0.053	0.269	0.272	0.539	3.287
365-05 M	603	0.363	0.011	0.003	0.136	0.753	0.302	0.207	0.196	0.045	0.275	0.282	0.552	3.438
374-04 M	560	0.409	0.013	0.003	0.139	0.784	0.346	0.220	0.241	0.057	0.329	0.330	0.657	3.029
375-02 M	598	0.349	0.013	0.003	0.229	0.686	0.334	0.204	0.219	0.047	0.311	0.326	0.639	3.431
381-02 M	520	0.410	0.012	0.003	0.138	0.677	0.360	0.244	0.269	0.056	0.365	0.363	0.725	3.202
389-04 M	478	0.454	0.011	0.003	0.174	0.732	0.374	0.184	0.232	0.059	0.374	0.368	0.738	3.176
393-06 M	604	0.374	0.011	0.002	0.134	0.728	0.263	0.267	0.240	0.058	0.328	0.325	0.651	3.445
398-07 M	517	0.435	0.016	0.002	0.137	0.778	0.443	0.215	0.306	0.072	0.391	0.400	0.791	3.025
402-06 M	634	0.355	0.012	0.002	0.137	0.596	0.320	0.219	0.208	0.054	0.285	0.285	0.568	2.885
410-04 M	596	0.386	0.010	0.002	0.131	0.745	0.336	0.267	0.221	0.052	0.315	0.332	0.638	3.164
414-06 M	559	0.410	0.013	0.003	0.140	0.649	0.315	0.197	0.233	0.050	0.342	0.333	0.676	3.050
416-01 M	512	0.447	0.012	0.003	0.191	0.713	0.389	0.238	0.264	0.055	0.389	0.395	0.779	3.373
416-03 M	556	0.405	0.011	0.003	0.162	0.716	0.243	0.221	0.227	0.054	0.320	0.329	0.649	3.448
417-04 M	548	0.389	0.010	0.002	0.122	0.650	0.332	0.215	0.217	0.055	0.312	0.303	0.615	2.772
389-06 M	503	0.447	0.015	0.003	0.163	0.732	0.278	0.215	0.245	0.056	0.338	0.348	0.684	3.509
436-02 M	687	0.330	0.008	0.002	0.160	0.620	0.249	0.135	0.186	0.035	0.262	0.258	0.518	3.643
443-05 M	551	0.399	0.011	0.002	0.142	0.711	0.328	0.176	0.247	0.056	0.319	0.307	0.623	2.907
451-01 M	646	0.368	0.011	0.002	0.124	0.667	0.299	0.119	0.211	0.048	0.300	0.289	0.590	2.805
MEAN	585	0.384	0.0115	0.002	0.147	0.712	0.313	0.205	0.230	0.053	0.318	0.318	0.634	3.239
S.D.	53.0	0.0345	0.00179	0.0004	0.0242	0.0484	0.0490	0.0360	0.0256	0.0068	0.0358	0.0381	0.0736	0.2476
N	28	28	28	27	28	28	28	28	28	28	28	28	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.

APPENDIX PP  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL GLAND	PITUITARY	SPLEEN	KIDNEYS	SEMINAL VESICLES	PROSTATE	LEFT CAUDA		TESTES	LIVER		
									EPIDIDYMIDES	EPIDIDYMUS				
308-02 M	491	0.444	0.010	0.002	0.163	0.705	0.269	0.110	0.246	0.053	0.332	0.324	0.654	2.821
318-03 M	648	0.356	0.010	0.002	0.136	0.677	0.295	0.127	0.227	0.059	0.304	0.616	0.614	3.284
319-07 M	526	0.416	0.013	0.002	0.183	0.667	0.367	0.211	0.251	0.059	0.333	0.306	0.660	3.327
327-02 M	634	0.356	0.012	0.002	0.132	0.732	0.308	0.263	0.229	0.044	0.311	0.306	0.614	3.315
331-06 M	514	0.422	0.011	0.002	0.158	0.827	0.329	0.195	0.233	0.054	0.305	0.307	0.615	3.204
333-04 M	459	0.479	0.012	0.003	0.150	0.715	0.301	0.163	0.255	0.068	0.357	0.375	0.725	3.146
336-02 M	574	0.390	0.013	0.002	0.169	0.775	0.271	0.268	0.265	0.066	0.354	0.340	0.692	3.139
337-04 M	634	0.355	0.011	0.003	0.147	0.754	0.271	0.178	0.246	0.063	0.304	0.315	0.621	3.530
352-08 M	557	0.395	0.011	0.002	0.147	0.666	0.329	0.140	0.230	0.052	0.316	0.320	0.634	3.187
358-04 M	596	0.391	0.010	0.002	0.158	0.737	0.307	0.263	0.272	0.059	0.314	0.320	0.636	3.270
362-02 M	615	0.377	0.011	0.003	0.163	0.634	0.299	0.176	0.207	0.049	0.288	0.288	0.572	3.213
364-03 M	537	0.430	0.014	0.002	0.177	0.791	0.331	0.207	0.242	0.060	0.328	0.335	0.661	3.421
378-08 M	532	0.415	0.010	0.002	0.158	0.782	0.267	0.244	0.244	0.056	0.308	0.316	0.626	3.271
394-05 M	508	0.429	0.011	0.003	0.154	0.740	0.270	0.177	0.260	0.059	0.427	0.425	0.858	2.833
395-06 M	556	0.396	0.012	0.003	0.142	0.691	0.356	0.207	0.255	0.059	0.317	0.306	0.622	3.108
396-01 M	498	0.432	0.017	0.003	0.173	0.737	0.369	0.205	0.245	0.058	0.367	0.361	0.729	3.633
399-02 M	676	0.337	0.011	0.002	0.143	0.648	0.287	0.138	0.201	0.044	0.286	0.296	0.581	3.135
405-05 M	564	0.392	0.013	0.002	0.147	0.743	0.291	0.172	0.215	0.048	0.326	0.316	0.642	3.183
415-02 M	550	0.400	0.011	0.002	0.133	0.618	0.356	0.171	0.218	0.047	0.313	0.304	0.615	2.856
434-02 M	612	0.371	0.010	0.003	0.144	0.752	0.279	0.221	0.227	0.056	0.333	0.338	0.668	3.217
435-03 M	626	0.339	0.009	0.002	0.145	0.655	0.272	0.141	0.212	0.053	0.291	0.289	0.575	3.348
437-03 M	752	0.316	0.013	0.002	0.120	0.665	0.257	0.144	0.197	0.048	0.290	0.291	0.578	3.004
437-05 M	640	0.358	0.012	0.002	0.144	0.702	0.155	0.200	0.213	0.053	0.308	0.294	0.602	3.200
438-02 M	582	0.404	0.009	0.002	0.160	0.713	0.246	0.211	0.249	0.057	0.342	0.342	0.680	2.718
441-02 M	600	0.370	0.012	0.002	0.162	0.723	0.335	0.198	0.255	0.067	0.333	0.315	0.665	3.465
448-02 M	724	0.300	0.010	0.002	0.174	0.790	0.333	0.157	0.177	0.037	0.256	0.258	0.512	3.775
626-02 M	644	0.370	0.013	0.002	0.143	0.761	0.379	0.130	0.210	0.048	0.267	0.273	0.539	3.298
627-07 M	506	0.413	0.010	0.002	0.146	0.704	0.342	0.202	0.213	0.051	0.275	0.239	0.512	3.164
MEAN	584	0.388	0.0115	0.002	0.152	0.718	0.301	0.186	0.232	0.055	0.317	0.316	0.632	3.217
S.D.	70.9	0.0402	0.00171	0.0003	0.0147	0.0521	0.0483	0.0427	0.0232	0.0072	0.0342	0.0364	0.0699	0.2361
N	28	28	28	28	28	28	28	28	28	28	28	27	28	28

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.  
a ABERRANT VALUE WAS NOT INCLUDED IN THE MEAN AND STANDARD DEVIATION.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX PP  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

GROUP 1: 0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUIT-			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	TARY	TARY					
306-05 F	368	0.565	0.022	0.027	0.005	0.155	0.823	0.149	5.274			
311-13 F	298	0.628	0.019	0.028	0.005	0.174	0.782	0.151	5.148			
317-13 F	350	0.566	0.024	0.033	0.005	0.186	0.817	0.129	4.777			
321-10 F	339	0.575	0.026	0.036	0.005	0.195	0.855	0.121	4.732			
323-12 F	313	0.623	0.023	0.034	0.006	0.188	0.850	0.157	4.802			
345-05 F	359	0.579	0.023	0.032	0.005	0.203	0.763	0.136	4.855			
345-08 F	373	0.601	0.026	0.027	0.005	0.198	0.818	0.147	4.885			
348-13 F	375	0.605	0.023	0.024	0.005	0.144	0.773	0.112	5.157			
353-11 F	323	0.628	0.025	0.031	0.004	0.189	0.802	0.115	4.827			
355-13 F	369	0.569	0.018	0.020	0.003	0.179	0.783	0.125	4.507			
371-03 F	351	0.587	0.022	0.018	0.005	0.162	0.840	0.177	5.100			
380-09 F	340	0.621	0.026	0.032	0.004	0.153	0.871	0.132	5.547			
384-13 F	339	0.581	0.023	0.030	0.004	0.150	0.782	0.121	5.027			
388-13 F	332	0.614	0.022	0.030	0.005	0.148	0.726	0.102	4.524			
390-09 F	342	0.599	0.024	0.032	0.005	0.187	0.781	0.129	5.000			
390-11 F	324	0.645	0.021	0.031	0.005	0.173	0.787	0.080	4.809			
400-10 F	347	0.553	0.018	0.026	0.005	0.159	0.775	0.118	4.648			
403-12 F	304	0.704	0.021	0.028	0.005	0.184	0.799	0.188	4.875			
408-12 F	338	0.577	0.017	0.031	0.005	0.163	0.716	0.083	4.793			
426-14 F	339	0.584	0.027	0.030	0.005	0.224	0.805	0.212	4.950			
427-14 F	363	0.576	0.022	0.028	0.004	0.190	0.884	0.113	4.937			
449-12 F	364	0.596	0.021	0.032	0.005	0.162	0.794	0.110	4.560			
628-07 F	338	0.604	0.021	0.033	0.006	0.157	0.831	0.121	5.089			
628-12 F	377	0.560	0.017	0.026	0.005	0.141	0.772	0.170	4.873			
MEAN	344	0.598	0.022	0.029	0.005	0.174	0.801	0.133	4.904			
S.D.	21.9	0.0333	0.0028	0.0043	0.0006	0.0214	0.0412	0.0314	0.2421			
N	24	24	24	24	24	24	24	24	24			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

APPENDIX PP  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	ADRENAL				PITUITARY				SPLEEN	KIDNEYS	UTERUS	LIVER
		BRAIN	GLAND	OVARIES	TARY	BRAIN	GLAND	OVARIES	TARY				
310-04 F	306	0.624	0.022	0.035	0.005	0.196	0.833	0.108	4.444				
312-08 F	269	0.699	0.026	0.035	0.005	0.175	0.929	0.115	4.353				
313-07 F	355	0.577	0.026	0.026	0.004	0.194	0.761	0.144	4.296				
314-12 F	366	0.571	0.024	0.028	0.004	0.169	0.746	0.093	4.828				
324-12 F	356	0.562	0.030	0.040	0.005	0.166	0.983	0.140	4.941				
329-11 F	357	0.571	0.021	0.025	0.005	0.196	0.804	0.134	4.468				
329-12 F	376	0.564	0.021	0.030	0.004	0.205	0.856	0.082	4.465				
354-10 F	370	0.562	0.025	0.032	0.004	0.181	0.895	0.095	4.873				
363-11 F	340	0.600	0.023	0.004	0.004	0.162	0.735	0.109	4.800				
377-09 F	377	0.549	0.018	0.022	0.005	0.167	0.703	0.122	4.634				
397-15 F	358	0.575	0.029	0.024	0.004	0.156	0.802	0.106	4.832				
406-04 F	326	0.607	0.021	0.031	0.004	0.193	0.810	0.135	4.469				
409-09 F	335	0.546	0.020	0.030	0.006	0.170	0.737	0.104	4.522				
411-10 F	353	0.564	0.023	0.036	0.005	0.173	0.688	0.130	4.742				
411-11 F	348	0.586	0.022	0.040	0.004	0.216	0.770	0.112	4.595				
419-14 F	341	0.587	0.024	0.031	0.005	0.179	0.845	0.158	5.487				
422-13 F	348	0.586	0.023	0.036	0.006	0.213	0.836	0.112	4.733				
423-12 F	236	0.771	0.031	0.035	0.004	0.203	0.847	0.089	4.936				
428-15 F	365	0.570	0.021	0.027	0.004	0.164	0.803	0.085	4.723				
429-12 F	350	0.629	0.023	0.038	0.005	0.194	0.846	0.114	4.323				
429-14 F	351	0.567	0.026	0.030	0.005	0.191	0.821	0.094	5.048				
430-17 F	330	0.588	0.023	0.036	0.005	0.161	0.821	0.118	4.427				
431-11 F	362	0.539	0.024	0.022	0.005	0.199	0.818	0.135	4.765				
440-15 F	391	0.519	0.023	0.032	0.004	0.192	0.788	0.123	4.302				
447-17 F	339	0.614	0.022	0.033	0.004	0.201	0.805	0.109	5.410				
629-17 F	323	0.610	0.031	0.033	0.004	0.254	0.783	0.161	4.533				
MEAN	343	0.590	0.024	0.030	0.005	0.187	0.810	0.117	4.690				
S.D.	32.8	0.0510	0.0033	0.0074	0.0006	0.0218	0.0650	0.0212	0.3098				
N	26	26	26	26	26	26	26	26	26				

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

APPENDIX PP

GROUP 3: 2.5 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	KIDNEYS	UTERUS	LIVER				
304-11 F	378	0.548	0.021	0.024	0.006	0.175	0.817	0.124	5.093			
307-13 F	339	0.552	0.021	0.033	0.005	0.174	0.729	0.106	4.761			
338-10 F	345	0.594	0.026	0.032	0.004	0.200	0.826	0.107	4.568			
340-10 F	420	0.476	0.019	0.027	0.005	0.152	0.702	0.140	4.633			
342-05 F	329	0.571	0.021	0.027	0.004	0.176	0.717	0.128	4.599			
351-11 F	377	0.493	0.022	0.024	0.006	0.194	0.769	0.109	4.544			
351-12 F	420	0.486	0.020	0.031	0.005	0.179	0.690	0.098	4.179			
359-13 F	385	0.527	0.026	0.033	0.004	0.156	0.732	0.127	4.268			
367-08 F	351	0.595	0.024	0.032	0.005	0.154	0.735	0.120	4.516			
367-10 F	342	0.594	0.023	0.032	0.004	0.205	0.772	0.137	4.731			
368-10 F	328	0.616	0.026	0.033	0.004	0.162	0.817	0.143	4.820			
372-09 F	367	0.599	0.025	0.032	0.005	0.207	0.771	0.106	4.436			
373-08 F	296	0.662	0.023	0.032	0.004	0.166	0.784	0.105	4.652			
382-08 F	320	0.647	0.023	0.036	0.006	0.178	0.884	0.125	5.266			
382-09 F	332	0.614	0.024	0.026	0.005	0.160	0.795	0.117	4.602			
385-07 F	335	0.597	0.026	0.031	0.005	0.167	0.851	0.137	4.767			
404-07 F	329	0.587	0.022	0.035	0.004	0.188	0.857	0.119	4.562			
418-12 F	325	0.618	0.023	0.029	0.004	0.166	0.738	0.120	4.145			
421-12 F	349	0.550	0.023	0.029	0.005	0.149	0.788	0.112	4.625			
432-12 F	337	0.599	0.024	0.028	0.005	0.160	0.727	0.163	5.095			
439-11 F	356	0.556	0.023	0.026	0.004	0.157	0.666	0.107	4.576			
444-16 F	351	0.584	0.021	0.025	0.005	0.188	0.755	0.142	4.641			
445-13 F	367	0.545	0.026	0.030	0.005	0.191	0.839	0.093	4.689			
625-08 F	347	0.594	0.022	0.036	0.004	0.144	0.781	0.086	4.660			
MEAN	351	0.575	0.023	0.030	0.005	0.173	0.773	0.120	4.643			
S.D.	29.4	0.0471	0.0020	0.0036	0.0007	0.0181	0.0562	0.0182	0.2604			
N	24	24	24	24	24	24	24	24	24			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.



SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

APPENDIX PP

GROUP 4: 5.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUITARY			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	SPLEEN	KIDNEYS	UTERUS				
303-07 F	366	0.546	0.019	0.034	0.004	0.178	0.727	0.142	4.090			
326-09 F	329	0.596	0.024	0.024	0.005	0.152	0.799	0.176	4.805			
328-08 F	308	0.711	0.029	0.035	0.005	0.231	0.873	0.172	4.305			
330-01 F	324	0.614	0.024	0.031	0.005	0.154	0.901	0.160	5.213			
344-09 F	327	0.642	0.027	0.029	0.005	0.159	0.792	0.101	3.982			
346-15 F	330	0.567	0.022	0.036	0.003	0.176	0.900	0.142	5.042			
350-11 F	378	0.532	0.022	0.036	0.004	0.183	0.799	0.077	4.648			
360-08 F	333	0.610	0.022	0.038	0.006	0.141	0.823	0.138	4.889			
361-13 F	336	0.592	0.026	0.029	0.005	0.170	0.774	0.140	4.583			
365-09 F	380	0.545	0.019	0.031	0.005	0.189	0.779	0.079	4.837			
374-09 F	351	0.618	0.027	0.038	0.005	0.174	0.860	0.120	5.558			
375-12 F	322	0.615	0.023	0.035	0.005	0.196	0.817	0.109	4.258			
381-11 F	351	0.587	0.026	0.035	0.005	0.225	0.829	0.108	5.752			
393-14 F	383	0.512	0.024	0.035	0.003	0.162	0.723	0.149	5.047			
398-10 F	335	0.618	0.026	0.028	0.004	0.203	0.761	0.104	4.564			
402-10 F	346	0.581	0.022	0.026	0.004	0.150	0.720	0.092	4.578			
416-08 F	348	0.612	0.024	0.034	0.005	0.244	0.739	0.152	4.609			
416-09 F	335	0.642	0.024	0.030	0.005	0.200	0.863	0.296	4.767			
417-13 F	336	0.622	0.026	0.032	0.004	0.182	0.741	0.095	4.500			
436-08 F	414	0.505	0.018	0.027	0.004	0.164	0.691	0.087	4.807			
436-12 F	394	0.523	0.023	0.033	0.004	0.170	0.678	0.084	4.645			
443-12 F	316	0.636	0.026	0.030	0.005	0.180	0.778	0.168	4.873			
451-16 F	380	0.561	0.024	0.035	0.005	0.163	0.797	0.129	4.355			
MEAN	349	0.591	0.024	0.032	0.005	0.180	0.790	0.131	4.726			
S.D.	27.7	0.0494	0.0027	0.0038	0.0006	0.0264	0.0631	0.0474	0.4210			
N	23	23	23	23	23	23	23	23	23			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F1 PARENTAL ORGAN WEIGHT TO BODY WEIGHT DATA (GRAMS/100 GRAMS)

APPENDIX PP

GROUP 5: 10.0 MG/KG/DAY

ANIMAL NO.	FBW(G)	BRAIN	ADRENAL			PITUIT-			SPLEEN	KIDNEYS	UTERUS	LIVER
			GLAND	OVARIES	TARY	OVARIES	TARY					
308-14 F	311	0.617	0.026	0.027	0.004	0.209	0.788	0.148	4.621			
318-04 F	352	0.577	0.023	0.030	0.004	0.185	0.793	0.091	4.776			
318-10 F	343	0.615	0.024	0.032	0.005	0.184	0.831	0.125	4.420			
319-10 F	340	0.635	0.022	0.025	0.004	0.188	0.759	0.138	4.618			
327-04 F	368	0.571	0.025	0.029	0.004	0.177	0.772	0.111	4.201			
331-08 F	338	0.592	0.022	0.030	0.004	0.180	0.870	0.104	4.254			
333-06 F	325	0.646	0.028	0.041	0.005	0.191	0.794	0.132	4.338			
336-08 F	334	0.650	0.024	0.036	0.005	0.222	0.817	0.129	4.293			
337-07 F	359	0.596	0.028	0.030	0.005	0.164	0.777	0.170	4.423			
358-09 F	348	0.569	0.022	0.028	0.004	0.178	0.799	0.115	4.233			
364-13 F	341	0.581	0.026	0.039	0.004	0.208	0.830	0.085	4.630			
378-10 F	412	0.498	0.020	0.027	0.004	0.175	0.738	0.109	4.704			
394-11 F	324	0.605	0.023	0.036	0.004	0.179	1.034	0.167	4.515			
395-15 F	310	0.652	0.020	0.032	0.005	0.177	0.752	0.123	4.068			
396-16 F	356	0.590	0.026	0.032	0.004	0.171	0.854	0.157	4.697			
405-08 F	330	0.591	0.020	0.032	0.004	0.145	0.839	0.097	5.176			
434-10 F	387	0.519	0.024	0.039	0.004	0.178	0.811	0.109	5.349			
435-13 F	330	0.639	0.028	0.027	0.005	0.194	0.876	0.167	4.897			
437-08 F	370	0.565	0.020	0.036	0.004	0.192	0.722	0.089	4.854			
438-15 F	318	0.638	0.030	0.033	0.005	0.217	0.827	0.145	4.289			
448-04 F	412	0.502	0.026	0.029	0.004	0.163	0.799	0.102	4.769			
434-08 F	344	0.544	0.021	0.037	0.004	0.160	0.802	0.096	4.948			
627-11 F	360	0.575	0.022	0.032	0.006	0.172	0.742	0.197	5.167			
MEAN	348	0.590	0.024	0.032	0.004	0.183	0.810	0.126	4.619			
S.D.	27.7	0.0449	0.0029	0.0045	0.0005	0.0184	0.0638	0.0304	0.3429			
N	23	23	23	23	23	23	23	23	23			

NOTE: FBW(G) REPRESENTS FINAL BODY WEIGHT IN GRAMS.

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SLI Study No. 3472.4

APPENDIX QQ

Individual F1 Male Semen Analysis Data

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX QQ  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F1 MALE SEMEN ANALYSIS DATA

GROUP 1: 0 MG/KG/DAY

SCHEDULED EUTHANASIA

ANIMAL NO.	% MOTILITY	CONCENTRATION (M/ML)	TOTAL SPERM (M/G)	% NORMAL SPERM MORPHOLOGY
306-01	51	3.5	915.7	37.5
306-02	94	4.0	846.1	85.5
311-06	90	5.1	1078.7	81.0
317-04	96	4.9	1039.9	91.0
321-01	93	4.1	805.2	91.5
321-04	93	5.0	812.9	84.0
323-05	86	4.2	912.5	87.0
323-06	81	3.5	783.8	88.0
345-01	86	3.5	694.3	86.5
348-04	87	4.7	1058.9	91.5
353-06	38	1.9	520.1	30.0
355-05	92	4.5	1058.6	85.0
371-01	92	7.4	1294.9	64.0
380-04	88	4.2	891.3	82.5
384-05	77	5.8	1313.3	74.0
388-03	94	5.8	1119.0	88.5
390-04	89	3.0	738.4	87.5
400-06	93	4.4	1023.1	84.0
355-02	93	5.5	1199.0	82.5
403-06	91	5.7	1252.2	90.5
408-03	93	3.6	859.9	80.0
420-02	92	4.3	964.3	87.0
425-07	88	4.3	879.2	86.0
426-05	93	3.6	922.6	86.0
427-02	89	4.6	939.2	94.5
449-05	90	3.6	724.7	91.0
450-06	92	6.6	1209.8	91.0
628-04	91	3.1	724.7	94.0
MEAN	87	4.4	949.4	82.2
S. D.	12.8	1.16	197.10	15.05
N	28	28	28	28

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMI S.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 CLIENT: NIPERA, INC. INDIVIDUAL F1 MALE SEMEN ANALYSIS DATA

APPENDIX QQ

GROUP 5: 10.0 MG/KG/DAY

SCHEDULED EUTHANASIA

ANIMAL NO.	% MOTILITY	CONCENTRATION (M/ML)	TOTAL SPERM (M/G)	% NORMAL SPERM MORPHOLOGY
308-02	90	3.8	1010.4	90.0
318-03	88	4.1	750.9	84.0
319-07	93	3.5	781.7	86.0
327-02	90	4.2	1043.4	78.5
331-06	80	4.4	1091.9	88.0
333-04	91	3.6	803.6	86.5
336-02	89	3.8	697.3	90.0
337-04	89	6.5	1132.3	90.5
352-08	93	3.0	726.3	85.0
358-04	94	3.6	724.7	88.0
362-02	86	4.9	1132.3	82.0
364-03	86	5.4	1188.9	84.0
378-08	90	2.9	686.9	86.5
394-05	95	3.8	898.3	88.0
395-06	74	4.6	974.5	86.0
396-01	86	3.5	843.4	83.0
399-02	92	4.5	1041.7	89.0
405-05	90	3.5	914.3	89.5
415-02	88	2.4	644.6	90.0
434-02	93	3.4	692.7	82.0
435-03	89	4.6	974.5	90.5
437-03	91	5.0	968.8	77.0
437-05	89	4.3	892.5	85.5
438-02	91	2.9	617.6	86.5
441-02	94	3.5	611.5	94.5
448-02	86	2.7	704.6	75.0
626-02	88	4.9	1103.1	93.0
627-07	86	3.5	781.7	83.0
MEAN	89	4.0	872.7	86.1
S.D.	4.4	0.90	176.10	4.56
N	28	28	28	28

NOTE: SAMPLES FOR THE MOTILITY ANALYSIS WERE COLLECTED FROM THE PROXIMAL PART OF THE VAS DEFERENS. SAMPLES FOR THE CONCENTRATION AND COUNT ANALYSES WERE COLLECTED FROM THE CAUDA PORTION OF THE LEFT EPIDIDYMS.

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SLI Study No. 3472.4

APPENDIX RR

Individual F2 Pup Viability

GROUP 1: 0 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0		NO. VIABLE DAY 0		DAY 1		SELECTION DAY 4		SELECTION DAY 4		DAY 7		DAY 14		DAY 21	
	M	F	M	%	M	F	M	F	M	F	M	F	M	F	M	F
306-05	0	0	6/6	100	9/9	100	6	9	6	9	4	4	4	4	4	4
311-13	0	0	9/9	100	7/7	100	9	7	8	7	4	4	4	4	4	4
317-13	0	0	8/8	100	4/4	100	8	4	8	4	4	4	4	4	4	4
321-10	0	0	8/8	100	1/1	100	8	1	8	1	7	1	7	1	7	1
323-12	0	1	3/3	100	9/10	90	3	9	3	9	3	5	3	5	3	5
345-05	1	0	5/6	83	8/9	89	5	8	5	8	4	4	4	4	4	4
345-08	0	1	7/7	100	7/8	88	7	7	7	7	4	4	4	4	4	4
348-13	0	0	7/7	100	6/6	100	7	6	7	6	4	4	4	4	4	4
353-11	0	0	7/7	100	9/9	100	7	8	7	8	4	4	4	4	4	4
355-13	0	0	5/5	100	11/11	100	4	11	4	11	4	4	4	4	4	4
371-03	1	0	5/6	83	7/7	100	5	7	5	7	4	4	4	4	4	4
380-09	0	0	10/10	100	6/6	100	10	6	10	6	4	4	4	4	4	4
384-13	0	0	6/6	100	7/7	100	6	7	6	7	4	4	4	4	4	4
388-13	0	0	8/8	100	7/7	100	8	7	8	7	4	4	3	4	3	4
390-09	1	0	7/8	88	8/8	100	7	8	7	8	4	4	4	4	4	4
390-11	0	0	5/5	100	4/4	100	5	4	5	4	4	4	4	4	4	4
400-10	0	0	7/7	100	10/10	100	7	10	7	10	4	4	4	4	4	4
403-12	0	0	5/5	100	8/8	100	5	8	4	8	4	4	4	4	4	4
408-12	2	0	7/9	78	7/7	100	7	7	7	7	4	4	4	4	4	4
426-14	0	0	5/5	100	7/7	100	5	7	5	7	4	4	4	4	4	4
427-14	1	0	4/5	80	10/10	100	4	9	4	8	4	4	4	4	4	4
449-12	0	1	9/9	100	5/6	83	9	5	9	5	4	4	4	4	4	4
628-07	0	0	5/5	100	9/9	100	5	9	5	9	4	4	4	4	4	4
628-12	0	0	10/10	100	6/6	100	10	5	10	5	4	4	4	4	4	4
TOTAL	6	4	0	158/164	172/176	330	157	169	155	168	98	94	98	94	97	94

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS APPENDIX RR  
 CLIENT: NIPERA, INC. INDIVIDUAL F2 PUP VIABILITY

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	NO. DEAD		NO. VIABLE		NO. VIABLE		DAY 0		DAY 1		SELECTION DAY 4		SELECTION DAY 4		DAY 7		DAY 14		DAY 21		
	M	F	U	M	F	%	M	F	%	M	F	M	F	M	F	M	F	M	F	M	F
	DAY 0		DAY 0		DAY 0		DAY 0		DAY 0		DAY 4		DAY 4		DAY 4		DAY 4		DAY 4		DAY 4
310-04	0	0	0	8	8	100	9	9	100	8	9	8	9	4	4	4	4	4	4	4	4
312-08	0	0	1	4	4	100	8	8	100	4	8	4	8	4	4	4	4	3	4	4	3
313-07	1	0	0	9	10	90	6	6	100	9	6	9	6	4	4	4	4	4	4	4	4
314-12	0	1	0	10	10	100	4	5	80	10	4	10	4	4	4	4	4	4	4	4	4
324-12	2	0	0	6	8	75	9	9	100	6	9	6	9	5	3	5	3	5	3	5	3
329-11	0	1	0	7	7	100	8	9	89	7	8	7	8	4	4	4	4	4	4	4	4
329-12	0	0	0	8	8	100	5	5	100	8	5	8	5	4	4	4	4	4	4	4	4
354-10	0	0	0	7	7	100	11	11	100	7	11	7	11	4	4	4	4	4	4	4	4
363-11	0	0	0	10	10	100	6	6	100	10	6	10	6	4	4	4	4	4	4	4	4
377-09	0	0	0	7	7	100	5	5	100	7	5	7	5	4	4	4	4	4	4	4	4
397-15	0	0	0	9	9	100	9	9	100	9	9	9	9	4	4	4	4	4	4	4	4
406-04	0	1	0	4	4	100	11	12	92	4	11	4	11	4	4	4	4	4	4	4	4
409-09	0	1	0	5	5	100	8	9	89	5	8	5	8	4	4	4	4	4	4	4	4
411-10	0	0	0	7	7	100	8	8	100	7	7	6	7	4	4	4	4	4	4	4	4
411-11	0	0	0	7	7	100	10	10	100	7	10	7	10	4	4	4	3	4	4	4	3
419-14	0	0	0	8	8	100	9	9	100	8	9	8	9	4	4	4	4	4	4	4	4
422-13	0	0	0	4	4	100	12	12	100	4	12	4	12	4	4	4	4	4	4	4	4
423-12	0	0	0	7	7	100	5	5	100	7	5	7	5	4	4	4	4	4	4	4	4
428-15	0	0	0	5	5	100	11	11	100	5	11	5	11	4	4	4	4	4	4	4	4
429-12	0	0	0	1	1	100	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0
429-14	0	0	0	9	9	100	8	8	100	9	8	8	8	4	4	4	4	4	4	4	4
430-17	0	0	0	6	6	100	9	9	100	6	9	6	9	4	4	4	4	4	4	4	4
431-11	0	0	0	4	4	100	13	13	100	4	13	4	13	4	4	4	4	4	4	4	4
440-15	0	0	0	7	7	100	10	10	100	7	10	7	10	4	4	4	4	4	4	4	4
447-17	0	0	0	9	9	100	7	7	100	9	7	9	7	4	4	4	4	4	4	4	4
629-17	1	0	0	7	8	88	9	9	100	7	9	7	9	4	4	4	4	4	4	4	4
TOTAL	4	4	1	175	179	210	214	385		175	209	173	209	102	99	102	98	102	97	102	97

M = MALE, F = FEMALE, U = UNDETERMINED  
 NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.  
 APPENDIX RR  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP VIABILITY

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	NO. DEAD DAY 0			NO. VIABLE DAY 0			TOTAL			DAY 1			SELECTION DAY 4			SELECTION DAY 4			DAY 7			DAY 14			DAY 21					
	M	F	U	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%
304-11	0	0	0	4/	4	100	10/10	100	100	14	4	10	4	4	9	4	4	4	4	4	4	4	4	4	4	4	4	4		
307-13	1	0	0	8/	9	89	7/	7	100	15	8	7	8	7	8	4	4	4	4	4	4	4	4	4	4	4	4	4		
338-10	0	1	0	6/	6	100	8/	9	89	14	5	7	5	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
340-10	0	1	0	9/	9	100	8/	9	89	17	9	8	8	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
342-05	0	0	0	5/	5	100	8/	8	100	13	5	8	5	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
351-11	0	0	0	5/	5	100	7/	7	100	12	5	7	5	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
351-12	0	1	0	8/	8	100	8/	9	89	16	8	8	8	8	3	5	3	5	3	5	3	5	3	5	3	5	3	5		
356-14	0	1	0	0/	0	0	0/	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
359-13	2	1	0	7/	9	78	8/	9	89	15	7	8	7	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
367-08	0	0	0	8/	8	100	10/10	100	100	18	8	10	8	10	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
367-10	0	1	0	4/	4	100	10/11	91	91	14	4	10	4	9	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
368-10	0	0	0	7/	7	100	7/	7	100	14	7	7	7	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
372-09	0	0	0	6/	6	100	7/	7	100	13	6	7	6	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4		
373-08	0	0	0	3/	3	100	10/10	100	100	13	3	10	3	10	3	5	3	5	3	5	3	5	3	5	3	5	3	5		
382-08	0	0	1	6/	6	100	10/10	100	100	16	6	10	6	10	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
382-09	0	0	0	8/	8	100	3/	3	100	11	8	3	8	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	
385-07	1	1	0	5/	6	83	7/	8	88	12	5	7	5	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
404-07	0	0	0	9/	9	100	6/	6	100	15	9	6	9	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
418-12	0	0	0	5/	5	100	1/	1	100	6	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	
421-12	0	2	0	8/	8	100	8/10	80	80	16	8	8	8	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
432-12	0	0	0	6/	6	100	10/10	100	100	16	6	10	6	10	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
439-11	0	0	0	6/	6	100	11/11	100	100	17	6	11	6	10	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
444-16	0	0	0	7/	7	100	8/	8	100	15	7	8	7	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
445-13	0	0	0	7/	7	100	8/	8	100	15	7	8	7	7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
625-08	0	0	0	6/	6	100	8/	8	100	14	6	8	6	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
TOTAL	4	9	1	153/157	188/197					341	152	187	151	182	96	94	96	94	96	94	96	94	96	94	96	94	96	94		

M = MALE, F = FEMALE, U = UNDETERMINED  
 NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

DAM NO.	NO. DEAD DAY 0			NO. VIABLE DAY 0			TOTAL			BEFORE SELECTION DAY 4			AFTER SELECTION DAY 4			DAY 7			DAY 14			DAY 21		
	M	F	U	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%	M	F	%
303-07	0	0	0	3/	3	100	9/	9	100	12	3	9	3	9	100	3	5	3	5	3	5	3	5	
326-09	1	0	0	4/	5	80	9/	9	100	13	4	9	4	9	100	4	4	4	4	4	4	4	4	
328-08	1	0	0	3/	4	75	10/	10	100	13	3	10	3	10	100	3	5	3	5	3	5	3	5	
330-01	0	0	0	6/	6	100	7/	7	100	13	6	7	6	7	100	4	4	4	4	4	4	4	4	
344-09	0	0	0	5/	5	100	9/	9	100	14	4	9	4	9	100	4	4	4	4	4	4	4	4	
346-15	0	0	0	10/	10	100	7/	7	100	17	10	7	10	7	100	4	4	4	4	4	4	4	4	
350-11	0	0	0	7/	7	100	8/	8	100	15	7	8	7	8	100	4	4	4	4	4	4	4	4	
360-08	0	0	0	10/	10	100	6/	6	100	16	10	6	10	6	100	4	4	4	4	4	4	4	4	
361-13	0	0	0	6/	6	100	8/	8	100	14	5	8	5	8	100	4	4	4	4	4	4	4	4	
365-09	0	0	0	4/	4	100	8/	8	100	12	4	8	4	8	100	4	4	4	4	4	4	4	4	
374-09	0	0	0	9/	9	100	8/	8	100	17	9	8	9	8	100	4	4	4	4	4	4	4	4	
375-12	0	0	0	8/	8	100	6/	6	100	14	7	6	7	6	100	4	4	4	4	4	4	4	4	
381-11	0	0	0	8/	8	100	5/	5	100	13	8	5	8	5	100	4	4	4	4	4	4	4	4	
393-14	0	0	0	6/	6	100	9/	9	100	15	6	9	6	9	100	4	4	4	4	4	4	4	4	
398-10	0	1	0	7/	7	100	5/	6	83	12	7	5	7	5	83	4	4	4	4	4	4	4	4	
402-10	0	0	0	6/	6	100	4/	4	100	10	6	4	6	4	100	4	4	4	4	4	4	4	4	
416-08	0	0	0	6/	6	100	5/	5	100	11	6	5	6	5	100	4	4	4	4	4	4	4	4	
416-09	0	0	0	12/	12	100	3/	3	100	15	12	3	12	3	100	5	3	5	3	5	3	5	3	
417-13	0	0	0	7/	7	100	7/	7	100	14	7	7	7	7	100	4	4	4	4	4	4	4	4	
436-08	0	0	0	7/	7	100	7/	7	100	14	7	7	7	7	100	4	4	4	4	4	4	4	4	
436-12	0	0	0	7/	7	100	9/	9	100	16	7	9	7	9	100	4	4	4	4	4	4	4	4	
443-12	1	0	0	9/	10	90	5/	5	100	14	9	5	9	5	100	4	4	4	4	4	4	4	4	
451-16	1	0	0	9/	10	90	7/	7	100	16	9	7	9	7	100	4	4	4	4	4	4	4	4	
TOTAL	4	1	0	159/	163	161/	162			320	156	161	156	161	161	91	93	91	93	91	93	91	93	

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	NO. DEAD			NO. VIABLE			TOTAL	BEFORE SELECTION			AFTER SELECTION			DAY 7			DAY 14			DAY 21			
	DAY 0			DAY 0				%	DAY 4			DAY 4			M F F			M F F			M F F		
	M	F	U	M	F	U			M	F	U	M	F	U	M	F	U	M	F	U	M	F	U
308-14	1	2	0	5/6	83	6/8	75	11	5	6	6	4	4	4	4	4	4	4	4	4	4		
318-04	0	0	0	8/8	100	3/3	100	11	8	3	8	5	3	5	3	5	3	5	3	5	3		
318-10	0	0	0	5/5	100	11/11	100	16	5	11	5	11	4	4	4	4	4	4	4	4	4		
319-10	0	0	0	11/11	100	4/4	100	15	11	4	11	4	4	4	4	4	4	4	4	4	4		
327-04	0	0	0	9/9	100	7/7	100	16	8	7	8	6	4	4	4	4	4	4	4	4	4		
331-08	0	0	0	4/4	100	0/0	0	4	4	0	4	0	4	0	4	0	4	0	4	0	4		
333-06	0	0	0	9/9	100	9/9	100	18	9	9	8	9	4	4	4	4	4	4	4	4	4		
336-08	0	1	0	8/8	100	4/5	80	12	8	4	8	4	4	4	4	4	4	4	4	4	4		
337-07	0	0	0	6/6	100	8/8	100	14	6	8	6	7	4	4	4	4	4	4	4	4	4		
358-09	0	0	0	5/5	100	8/8	100	13	5	8	5	8	4	4	4	3	4	3	4	4	3		
364-13	0	0	0	9/9	100	9/9	100	18	9	9	9	4	4	4	4	4	4	4	4	4	4		
378-10	1	1	0	6/7	86	6/7	86	12	6	6	6	4	4	4	4	4	4	4	4	4	4		
394-11	0	0	0	8/8	100	7/7	100	15	8	7	8	6	4	4	4	4	4	4	4	4	4		
395-15	0	0	0	6/6	100	1/1	100	7	6	1	6	1	6	1	6	1	6	1	6	1	6		
396-16	0	0	0	8/8	100	7/7	100	15	8	7	8	7	4	4	4	4	4	4	4	4	4		
405-08	0	0	0	6/6	100	11/11	100	17	6	11	5	11	4	4	4	4	4	4	4	4	4		
434-10	1	0	0	11/12	92	3/3	100	14	11	3	11	3	5	3	5	3	5	3	5	3	5		
435-13	0	0	0	7/7	100	8/8	100	15	7	8	7	8	4	4	4	4	4	4	4	4	4		
437-08	0	0	0	10/10	100	6/6	100	16	10	6	10	6	4	4	4	4	4	4	4	4	4		
438-15	1	0	0	7/8	88	8/8	100	15	7	8	7	8	4	4	4	4	4	4	4	4	4		
441-10	0	0	0	0/0	0	1/1	100	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
448-04	0	0	0	9/9	100	11/11	100	20	9	10	9	10	4	4	4	4	4	4	4	4	4		
434-08	1	2	0	5/6	83	7/9	78	12	5	7	5	7	4	4	4	4	4	4	4	4	4		
627-11	0	0	0	13/13	100	3/3	100	16	13	3	13	3	5	3	5	3	5	3	5	3	5		
TOTAL	5	6	0	175/180	148/154			323	174	146	172	143	97	82	97	81	97	81	97	81	81		

M = MALE, F = FEMALE, U = UNDETERMINED  
NOTE: NUMBER DEAD = TOTAL PUPS FOUND DEAD, MISSING AND/OR CANNIBALIZED.

(1084)

SLI Study No. 3472.4

APPENDIX SS

Individual F2 Pup Observations during Lactation  
(Positive Findings)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
306-05	1	M	HAIRLOSS	14
			SLIGHT	
	2	M	HAIRLOSS	14
			SLIGHT	
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	HAIRLOSS	14
			SLIGHT	
	5	M	HAIRLOSS	14
			SLIGHT	
	6	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	HAIRLOSS	14
			SLIGHT	
	10	F	CULLED ON SCHEDULED DAY	4
11	F	CULLED ON SCHEDULED DAY	4	
12	F	HAIRLOSS	14	
		SLIGHT		
13	F	CULLED ON SCHEDULED DAY	4	
14	F	HAIRLOSS	14	
		SLIGHT		
15	F	HAIRLOSS	14	
		SLIGHT		
311-13	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	FOUND DEAD	4
	6	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
311-13	7	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
317-13	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
321-10	1	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	2	M	CULLED ON SCHEDULED DAY	4
	7	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
323-12	1	F	FOUND DEAD	0
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
345-05	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
345-05	6	M	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
345-08	1	F	FOUND DEAD	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	348-13	2	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		5	M	SCAB(S)	7
6		M	DORSAL HEAD CULLED ON SCHEDULED DAY	4	
8		F	SCAB(S)	7	
353-11		9	F	POSTERIOR DORSAL, PROXIMAL TAIL CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
		1	M	CULLED ON SCHEDULED DAY	4
		3	M	CULLED ON SCHEDULED DAY	4
		7	M	CULLED ON SCHEDULED DAY	4
353-11	11	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
353-11	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	MISSING - PRESUMED CANNIBALIZED	1
355-13	1	M	MISSING - PRESUMED CANNIBALIZED	1
	3	M	SCAB(S) LEFT HINDLIMB	7
371-03	6	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
380-09	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	1	M	PALE IN COLOR SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
380-09	5	M	CULLED ON SCHEDULED DAY	4	
	7	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	8	M	SCAB(S) FACIAL AREA	4	
	9	M	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	16	F	CULLED ON SCHEDULED DAY	4	
	384-13	1	M	SCAB(S) RIGHT HINDLIMB	4
		2	M	SCAB(S) RIGHT HINDLIMB	7
		3	M	SCAB(S) NOSE AREA	4
		5	M	CULLED ON SCHEDULED DAY SCAB(S) NOSE AREA	4
		6	M	SCAB(S) NOSE AREA NOSE AREA NOSE AREA NOSE AREA SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA SCAB(S) RIGHT HINDLIMB	4
				7	
				0	
				4	
				4	
				4	
				4	
				4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
384-13	6	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
388-13	11	F	CULLED ON SCHEDULED DAY	4
			CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CANNIBALIZED	13
	7	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
390-09	8	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
390-11	1	M	CULLED ON SCHEDULED DAY	4	
	400-10	1	M	CULLED ON SCHEDULED DAY	4
		2	M	CULLED ON SCHEDULED DAY	4
		6	M	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0
	403-12	9	F	CULLED ON SCHEDULED DAY	4
		10	F	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		13	F	CULLED ON SCHEDULED DAY	4
		16	F	CULLED ON SCHEDULED DAY	4
		4	M	SUBCUTANEOUS HEMORRHAGE(S) ABDOMINAL REGION	0
	408-12	6	F	FOUND DEAD SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	4
		7	F	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
		13	F	CULLED ON SCHEDULED DAY	4
		1	M	FOUND DEAD	0
2		M	FOUND DEAD	0	
3		M	CULLED ON SCHEDULED DAY	4	
4	M	CULLED ON SCHEDULED DAY	4		

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX SS  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
408-12	8	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
426-14	5	M	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
427-14	1	M	FOUND DEAD	0
	6	F	CULLED ON SCHEDULED DAY	4
	7	F	FOUND DEAD	2
	9	F	MISSING - PRESUMED CANNIBALIZED	1
	10	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
449-12	1	F	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	10	M	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
628-07	4	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 1: 0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
628-07	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
628-12	1	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	2	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	16	F	CANNIBALIZED	1

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
310-04	3	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	15	F	CULLED ON SCHEDULED DAY CULLED ON SCHEDULED DAY	4 4	
	312-08	1	a	CANNIBALIZED	0
		3	M	OPEN LESION(S) RIGHT INGUINAL	0
		6	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
		8	F	FOUND DEAD	13
		9	F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION, RIGHT HINDLIMB	4 0
				SCAB(S) LEFT HINDLIMB	0
10		F	CULLED ON SCHEDULED DAY	4	
11		F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	4 0	

a SEX OF PUP COULD NOT BE DETERMINED DUE TO CANNIBALIZATION.

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
312-08	11	F	CULLED ON SCHEDULED DAY	4	
	313-07	1	M	CANNIBALIZED	0
		2	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
		8	M	CULLED ON SCHEDULED DAY	4
		9	M	CULLED ON SCHEDULED DAY	4
		10	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
		11	M	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		14	F	CULLED ON SCHEDULED DAY	4
314-12	1	F	FOUND DEAD	0	
	2	M	PORTION OF TAIL ABSENT ENTIRE TAIL	0	
			PORTION OF TAIL ABSENT ENTIRE TAIL	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	11	M	CULLED ON SCHEDULED DAY	4	
	324-12	1	M	FOUND DEAD	0
		2	M	FOUND DEAD	0
		3	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
324-12	8	F	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
	329-11	1	F	FOUND DEAD	0
		2	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		7	M	CULLED ON SCHEDULED DAY	4
		10	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION SWELLING	0
		11	F	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		13	F	CULLED ON SCHEDULED DAY	4
		14	F	CULLED ON SCHEDULED DAY	4
16		F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
329-12	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	



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APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
329-12	11	F	CULLED ON SCHEDULED DAY	4
354-10	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
363-11	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	17	F	CULLED ON SCHEDULED DAY	4
	1	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
9	M	CULLED ON SCHEDULED DAY	4	
10	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
363-11	13	F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S)	4
	14	F	NOSE REGION, RIGHT HINDLIMB SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
			CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
363-11	16	F	CULLED ON SCHEDULED DAY	4	
	377-09	2	M	CULLED ON SCHEDULED DAY	4
		3	M	CULLED ON SCHEDULED DAY	4
		4	M	CULLED ON SCHEDULED DAY	4
397-15	7	F	CULLED ON SCHEDULED DAY	4	
	1	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
406-04	15	F	CULLED ON SCHEDULED DAY	4	
	18	F	CULLED ON SCHEDULED DAY	4	
	1	F	FOUND DEAD	0	
	7	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
406-04	14	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
406-04	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
409-09	1	F	FOUND DEAD	0
	3	M	CULLED ON SCHEDULED DAY	4
	6	M	OPEN LESION(S) ANOGENITAL AREA	0
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
411-10	1	M	SMALL IN SIZE	0
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	6	M	FOUND DEAD	3
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT LATERAL HEAD, LEFT LATERAL HEAD	0
			CULLED ON SCHEDULED DAY	4
			CULLED ON SCHEDULED DAY	4
			SMALL IN SIZE	0
			MISSING - PRESUMED CANNIBALIZED	1
			SCAB(S)	0
			MOUTH REGI ON	4
411-11	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
411-11	7	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	SCAB(S) PINPOINT ALL OVER VENTRAL BODY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	FOUND DEAD SUBCUTANEOUS HEMORRHAGE(S) LEFT EYE	6
				0
				4
				4
	419-14	2	M	CULLED ON SCHEDULED DAY
3		M	CULLED ON SCHEDULED DAY	4
5		M	CULLED ON SCHEDULED DAY	4
6		M	CULLED ON SCHEDULED DAY	4
10		F	CULLED ON SCHEDULED DAY	4
12		F	PALE IN COLOR COOL TO THE TOUCH	0
13		F	CULLED ON SCHEDULED DAY	0
14		F	CULLED ON SCHEDULED DAY	4
15		F	CULLED ON SCHEDULED DAY	4
17		F	CULLED ON SCHEDULED DAY	4
				4
422-13		6	F	CULLED ON SCHEDULED DAY
	7	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4

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SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
422-13	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
	423-12	1	M	CULLED ON SCHEDULED DAY	4
2		M	CULLED ON SCHEDULED DAY	4	
3		M	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0	
428-15	8	F	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
429-14	1	M	CULLED ON SCHEDULED DAY	4	
	6	F	CULLED ON SCHEDULED DAY	4	
	7	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
				SMALL IN SIZE	0
				SUBCUTANEOUS HEMORRHAGE(S) VENTRAL THORACIC, VENTRAL NECK, LEFT LATERAL NECK, RIGHT LATERAL NECK	0
				CULLED ON SCHEDULED DAY	4
				CULLED ON SCHEDULED DAY	4

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SLI STUDY NO.: 3472.4  
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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
429-14	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	M	FOUND DEAD	3
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
430-17	17	F	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
431-11	15	M	CULLED ON SCHEDULED DAY	4
	5	F	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	SCAB(S) FACIAL AREA	7
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
			CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
431-11	13	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
440-15	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	SCAB(S)	0	
447-17	17	F	ABDOMINAL REGION CULLED ON SCHEDULED DAY	4	
	1	M	CULLED ON SCHEDULED DAY	4	
	4	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY SCAB(S)	4	
	8	M	MOUTH REGI ON CULLED ON SCHEDULED DAY SCAB(S)	4	
	10	F	LEFT PINNA, DORSAL HEAD CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 2: 1.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
447-17	16	F	CULLED ON SCHEDULED DAY	4
629-17	1	M	FOUND DEAD	0
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	7	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	SCAB(S) RIGHT HINDLIMB	4
			CULLED ON SCHEDULED DAY	4



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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APPENDIX SS

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
304-11	6	F	FOUND DEAD	2	
	8	F	CULLED ON SCHEDULED DAY	4	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	307-13	1	M	FOUND DEAD	0
		3	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		8	M	CULLED ON SCHEDULED DAY	4
		9	M	CULLED ON SCHEDULED DAY	4
		11	F	CULLED ON SCHEDULED DAY	4
13		F	CULLED ON SCHEDULED DAY	4	
14		F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB CULLED ON SCHEDULED DAY	0	
338-10	1	F	UNSCHEDULED EUTHANASIA - CANNIBALIZED	0	
	2	M	CULLED ON SCHEDULED DAY	4	
	7	M	FOUND DEAD	1	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	15	F	MISSING - PRESUMED CANNIBALIZED	1	
	340-10	1	F	CANNIBALIZED	0
		2	M	FOUND DEAD	2

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

APPENDIX SS

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
340-10	5	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	17	F	FOUND DEAD	4
	18	F	CULLED ON SCHEDULED DAY	4
342-05	2	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
351-11	4	M	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
351-12	1	F	FOUND DEAD	0
	2	F	SMALL IN SIZE	0
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
351-12	9	M	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	16	F	CULLED ON SCHEDULED DAY	4	
356-14	1	F	FOUND DEAD	0	
359-13	1	M	FOUND DEAD	0	
	2	M	FOUND DEAD	0	
	3	F	FOUND DEAD	0	
	5	M	CULLED ON SCHEDULED DAY	4	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	
	17	F	CULLED ON SCHEDULED DAY	4	
	18	F	CULLED ON SCHEDULED DAY	4	
	367-08	4	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		8	M	CULLED ON SCHEDULED DAY	4
		10	F	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		14	F	CULLED ON SCHEDULED DAY	4
		15	F	CULLED ON SCHEDULED DAY	4
17		F	CULLED ON SCHEDULED DAY	4	
18		F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

APPENDIX SS

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
367-10	1	F	FOUND DEAD	0
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
368-10	13	F	MISSING - PRESUMED CANNIBALIZED	2
	1	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
372-09	13	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
373-08	4	F	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	382-08	1	a	CANNIBALIZED

a SEX OF PUP COULD NOT BE DETERMINED DUE TO CANNIBALIZATION.

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
382-08	2	M	PORTION OF TAIL ABSENT	0	
			ENTIRE TAIL		
			PORTION OF TAIL ABSENT	4	
			ENTIRE TAIL		
			PORTION OF TAIL ABSENT	7	
			ENTIRE TAIL		
			PORTION OF TAIL ABSENT	14	
			ENTIRE TAIL		
			PORTION OF TAIL ABSENT	21	
			ENTIRE TAIL		
		5	M	CULLED ON SCHEDULED DAY	4
		7	M	CULLED ON SCHEDULED DAY	4
		9	F	COOL TO THE TOUCH	4
		10	F	CULLED ON SCHEDULED DAY	4
		12	F	CULLED ON SCHEDULED DAY	4
		13	F	CULLED ON SCHEDULED DAY	4
		15	F	CULLED ON SCHEDULED DAY	4
	17	F	CULLED ON SCHEDULED DAY	4	
382-09	1	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
385-07	1	M	FOUND DEAD	0	
	2	F	FOUND DEAD	0	
	4	M	CULLED ON SCHEDULED DAY	4	
	8	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
385-07	9	F	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
404-07	1	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT EYE	0	
	4	M	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	9	F	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	10	M	CULLED ON SCHEDULED DAY	4	
	11	F	SUBCUTANEOUS HEMORRHAGE(S) DISTAL TAIL	0	
	13	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0	
	14	F	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	0	
	15	F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION, RIGHT HINDLIMB	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	421-12	1	F	FOUND DEAD	0
		2	F	FOUND DEAD	0

(1110)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
421-12	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	13	F	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
432-12	1	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
439-11	2	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	10	F	FOUND DEAD	2
	11	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4

(1111)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 3: 2.5 MG/KG/DAY

APPENDIX SS

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
439-11	15	F	CULLED ON SCHEDULED DAY	4	
	444-16	1	M	CULLED ON SCHEDULED DAY	4
		5	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		8	F	CULLED ON SCHEDULED DAY	4
		10	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0
	445-13	13	F	CULLED ON SCHEDULED DAY	4
		14	F	CULLED ON SCHEDULED DAY	4
		15	F	CULLED ON SCHEDULED DAY	4
		1	M	CULLED ON SCHEDULED DAY	4
		3	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	625-08	4	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		10	F	MISSING - PRESUMED CANNIBALIZED	4
		11	F	CULLED ON SCHEDULED DAY	4
13		F	CULLED ON SCHEDULED DAY	4	
15		F	CULLED ON SCHEDULED DAY	4	
2		M	CULLED ON SCHEDULED DAY	4	
5		M	CULLED ON SCHEDULED DAY	4	
7		F	CULLED ON SCHEDULED DAY	4	
11		F	CULLED ON SCHEDULED DAY	4	
13		F	CULLED ON SCHEDULED DAY	4	
14		F	CULLED ON SCHEDULED DAY	4	

(1112)



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX SS  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
303-07	4	F	CULLED ON SCHEDULED DAY	4
	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
326-09	1	M	FOUND DEAD	0
	7	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT FORELIMB	0
328-08	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	2	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
330-01	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
330-01	3	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4

(1113)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
344-09	5	M	FOUND DEAD	1
	7	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
346-15	13	F	CULLED ON SCHEDULED DAY	4
	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	10	M	CULLED ON SCHEDULED DAY	4
	12	F	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	0
	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
	17	F	CULLED ON SCHEDULED DAY	4
	350-11	1	M	HAIRLOSS
2		M	SLIGHT CULLED ON SCHEDULED DAY	4
3		M	HAIRLOSS	14
4		M	SLIGHT CULLED ON SCHEDULED DAY	4
5		M	HAIRLOSS	14
6		M	SLIGHT HAIRLOSS SLIGHT	14

(1114)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
350-11	7	M	CULLED ON SCHEDULED DAY	4	
	8	F	HAIRLOSS	14	
	9	F	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	11	F	HAIRLOSS	14	
	12	F	SLIGHT SCAB(S)	0	
			TAIL		
			HAIRLOSS	14	
	13	F	SLIGHT		
	14	F	CULLED ON SCHEDULED DAY	4	
			SUBCUTANEOUS HEMORRHAGE(S)	0	
			ABDOMINAL REGION		
			HAIRLOSS	14	
			SLIGHT		
			CULLED ON SCHEDULED DAY	4	
	360-08	1	M	CULLED ON SCHEDULED DAY	4
2		M	CULLED ON SCHEDULED DAY	4	
3		M	CULLED ON SCHEDULED DAY	4	
5		M	CULLED ON SCHEDULED DAY	4	
8		M	CULLED ON SCHEDULED DAY	4	
9		M	CULLED ON SCHEDULED DAY	4	
13		F	CULLED ON SCHEDULED DAY	4	
16		F	CULLED ON SCHEDULED DAY	4	
361-13		1	M	MISSING - PRESUMED CANNIBALIZED	1

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
361-13	3	M	CULLED ON SCHEDULED DAY	4
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
365-09	13	F	CULLED ON SCHEDULED DAY	4
	1	M	SCAB(S)	0
	3	M	FACIAL AREA SCAB(S)	0
	4	F	LEFT PINNA CULLED ON SCHEDULED DAY	4
374-09	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	1	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT LATERAL HEAD, RIGHT LATERAL HEAD	0
	6	M	CULLED ON SCHEDULED DAY SCAB(S)	4
	7	M	LEFT HINDLIMB CULLED ON SCHEDULED DAY	0
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
15	F	CULLED ON SCHEDULED DAY	4	
16	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	(POSITIVE FINDINGS)	LACTATION DAY	
375-12	1	M	GASPING		0	
			PALE IN COLOR		0	
			MISSING - PRESUMED CANNIBALIZED		1	
	3	M	CULLED ON SCHEDULED DAY		4	
	6	M	CULLED ON SCHEDULED DAY		4	
	7	M	CULLED ON SCHEDULED DAY		4	
	9	F	CULLED ON SCHEDULED DAY		4	
	12	F	CULLED ON SCHEDULED DAY		4	
	381-11	3	M	CULLED ON SCHEDULED DAY		4
		6	M	CULLED ON SCHEDULED DAY		4
		7	M	CULLED ON SCHEDULED DAY		4
		8	M	CULLED ON SCHEDULED DAY		4
10		F	CULLED ON SCHEDULED DAY		4	
393-14		1	M	SUBCUTANEOUS HEMORRHAGE(S)		0
			NOSE			
	2	M	CULLED ON SCHEDULED DAY		4	
	5	M	CULLED ON SCHEDULED DAY		4	
	7	F	CULLED ON SCHEDULED DAY		4	
	8	F	CULLED ON SCHEDULED DAY		4	
	11	F	CULLED ON SCHEDULED DAY		4	
	13	F	CULLED ON SCHEDULED DAY		4	
	15	F	CULLED ON SCHEDULED DAY		4	
	398-10	1	F	FOUND DEAD		0
		3	M	CULLED ON SCHEDULED DAY		4
		5	M	CULLED ON SCHEDULED DAY		4

(1117)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
398-10	8	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
402-10	1	M	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0
	3	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	6	M	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	4 0
	7	F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	4 0
	10	F	SCAB(S) LEFT HINDLIMB SCAB(S) MID DORSAL HAIRLOSS SLIGHT	7 4 14
416-08	3	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	10	F	OPEN LESION(S) LEFT HINDLIMB	0
416-09	1	M	CULLED ON SCHEDULED DAY	4
	3	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 4: 5.0 MG/KG/DAY

APPENDIX SS

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
416-09	3	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0	
	7	M	CULLED ON SCHEDULED DAY	4	
	8	M	CULLED ON SCHEDULED DAY	4	
	9	M	SUBCUTANEOUS HEMORRHAGE(S) LEFT HINDLIMB	0	
	11	M	CULLED ON SCHEDULED DAY	4	
	417-13	1	M	CULLED ON SCHEDULED DAY	4
		4	M	SCAB(S) DORSAL NECK	14
5		M	CULLED ON SCHEDULED DAY	4	
6		M	CULLED ON SCHEDULED DAY	4	
10		F	SUBCUTANEOUS HEMORRHAGE(S) DORSAL HEAD	0	
13		F	CULLED ON SCHEDULED DAY	4	
436-08	14	F	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	11	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	13	F	CULLED ON SCHEDULED DAY	4	

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 4: 5.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
436-12	2	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	SUBCUTANEOUS HEMORRHAGE(S) RIGHT HINDLIMB	0
443-12	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
451-16	5	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	10	M	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
	1	M	FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
9	M	CULLED ON SCHEDULED DAY	4	
12	F	CULLED ON SCHEDULED DAY	4	
14	F	CULLED ON SCHEDULED DAY	4	
17	F	CULLED ON SCHEDULED DAY	4	



SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
308-14	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0
	3	F	FOUND DEAD	0
	6	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
318-04	1	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	SUBCUTANEOUS HEMORRHAGE(S) VENTRAL NECK	0
	8	M	CULLED ON SCHEDULED DAY	4
318-10	4	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	6	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
			SCAB(S)	0
			LEFT LATERAL HEAD	
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4

(1121)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

PAGE 38

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
319-10	1	M	CULLED ON SCHEDULED DAY	4	
	2	M	CULLED ON SCHEDULED DAY	4	
	3	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	9	M	CULLED ON SCHEDULED DAY	4	
	14	F	HAIRLOSS	14	
	15	F	SLIGHT SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0	
	327-04	1	M	CULLED ON SCHEDULED DAY	4
		3	M	CULLED ON SCHEDULED DAY	4
		6	M	CULLED ON SCHEDULED DAY	4
		7	M	MISSING - PRESUMED CANNIBALIZED	1
		8	M	CULLED ON SCHEDULED DAY	4
		10	F	CULLED ON SCHEDULED DAY	4
13		F	MISSING - PRESUMED CANNIBALIZED	2	
16		F	CULLED ON SCHEDULED DAY	4	
333-06		1	M	GASPING	0
				PURPLE IN COLOR	0
	4	M	CULLED ON SCHEDULED DAY	4	
	5	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	

(1122)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

PAGE 39

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
333-06	7	M	FOUND DEAD	3
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	15	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION, MOUTH REGION	0
	16	F	CULLED ON SCHEDULED DAY	4
	17	F	CULLED ON SCHEDULED DAY	4
	18	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
336-08	1	F	FOUND DEAD	0
	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
337-07	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	HAIRLOSS	14
	6	M	SLIGHT HAIRLOSS	14
	7	F	SLIGHT HAIRLOSS	14
	8	F	SLIGHT CULLED ON SCHEDULED DAY	4
	9	F	FOUND DEAD	2
	11	F	HAIRLOSS	14
			SLIGHT	

(1123)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

APPENDIX SS

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
337-07	12	F	CULLED ON SCHEDULED DAY	4
	13	F	HAIRLOSS	14
	14	F	CULLED ON SCHEDULED DAY	4
358-09	2	M	CULLED ON SCHEDULED DAY	4
	4	M	PURPLE IN COLOR	0
	7	F	CULLED ON SCHEDULED DAY	4
	8	F	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	FOUND DEAD	5
364-13	1	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	10	F	COOL TO THE TOUCH	4
	11	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	0
	14	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
	17	F	CULLED ON SCHEDULED DAY	4
18	F	CULLED ON SCHEDULED DAY	4	

(1124)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
378-10	1	M	FOUND DEAD	0
	2	F	FOUND DEAD	0
	3	M	CULLED ON SCHEDULED DAY	4
	6	M	CULLED ON SCHEDULED DAY	4
	9	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
394-11	1	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
	5	M	CULLED ON SCHEDULED DAY	4
	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
395-15	12	F	SUBCUTANEOUS HEMORRHAGE(S) MOUTH REGION	0
			FOUND DEAD	2
			ACCIDENTAL INJURY, CART RAN OVER PUP	
	1	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	4	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0
	3	M	CULLED ON SCHEDULED DAY	4
396-16	4	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

APPENDIX SS

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA	LACTATION DAY	
396-16	8	M			0	
	9	F		CULLED ON SCHEDULED DAY	4	
	13	F		CULLED ON SCHEDULED DAY	4	
	14	F		CULLED ON SCHEDULED DAY	4	
405-08	1	M		FOUND DEAD	3	
	2	M		CULLED ON SCHEDULED DAY	4	
	8	F		CULLED ON SCHEDULED DAY	4	
	9	F		CULLED ON SCHEDULED DAY	4	
	10	F		CULLED ON SCHEDULED DAY	4	
	11	F		CULLED ON SCHEDULED DAY	4	
	13	F		CULLED ON SCHEDULED DAY	4	
	16	F		CULLED ON SCHEDULED DAY	4	
	17	F		CULLED ON SCHEDULED DAY	4	
	434-10	1	M		FOUND DEAD	0
2		M		CULLED ON SCHEDULED DAY	4	
4		M		CULLED ON SCHEDULED DAY	4	
6		M		CULLED ON SCHEDULED DAY	4	
8		M		CULLED ON SCHEDULED DAY	4	
9		M		CULLED ON SCHEDULED DAY	4	
10		M		CULLED ON SCHEDULED DAY	4	
435-13		1	M		CULLED ON SCHEDULED DAY	4
		2	M		CULLED ON SCHEDULED DAY	4
		7	M		CULLED ON SCHEDULED DAY	4

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX SS  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

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GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
435-13	10	F	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
437-08	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	7	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	13	F	CULLED ON SCHEDULED DAY	4
	14	F	CULLED ON SCHEDULED DAY	4
438-15	1	M	FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	5	M	CULLED ON SCHEDULED DAY	4
	11	F	CULLED ON SCHEDULED DAY	4
	12	F	CULLED ON SCHEDULED DAY	4
	15	F	CULLED ON SCHEDULED DAY	4
	16	F	CULLED ON SCHEDULED DAY	4
	1	F	SUBCUTANEOUS HEMORRHAGE(S) FACIAL AREA FOUND DEAD	0
	2	M	CULLED ON SCHEDULED DAY	1
	2	M	CULLED ON SCHEDULED DAY	4

(1127)

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

PAGE 44

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY	
448-04	3	M	CULLED ON SCHEDULED DAY	4	
	4	M	CULLED ON SCHEDULED DAY	4	
	6	M	CULLED ON SCHEDULED DAY	4	
	8	M	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	9	M	CULLED ON SCHEDULED DAY	4	
	10	F	CULLED ON SCHEDULED DAY	4	
	12	F	CULLED ON SCHEDULED DAY	4	
	14	F	CULLED ON SCHEDULED DAY	4	
	15	F	CULLED ON SCHEDULED DAY	4	
	17	F	SUBCUTANEOUS HEMORRHAGE(S) NOSE REGION	0	
	434-08	19	F	CULLED ON SCHEDULED DAY SUBCUTANEOUS HEMORRHAGE(S)	4
		20	F	RIGHT HINDLIMB, LEFT HINDLIMB MISSING - PRESUMED CANNIBALIZED	1
				CULLED ON SCHEDULED DAY	4
		1	M	FOUND DEAD	0
		2	F	FOUND DEAD	0
		3	F	FOUND DEAD	0
		4	M	CULLED ON SCHEDULED DAY	4
10	F	CULLED ON SCHEDULED DAY	4		
12	F	CULLED ON SCHEDULED DAY	4		
15	F	CULLED ON SCHEDULED DAY	4		
627-11	1	M	LABORED RESPIRATION COOL TO THE TOUCH	0	
				0	



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX SS  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
627-11	1	M	CULLED ON SCHEDULED DAY	4
	2	M	CULLED ON SCHEDULED DAY	4
	3	M	CULLED ON SCHEDULED DAY	4
	4	M	CULLED ON SCHEDULED DAY	4
	5	M	HAIRLOSS	14
			SLIGHT	
	6	M	HAIRLOSS	14
			SLIGHT	
	7	M	CULLED ON SCHEDULED DAY	4
	8	M	CULLED ON SCHEDULED DAY	4
	9	M	CULLED ON SCHEDULED DAY	4
	10	M	HAIRLOSS	14
			SLIGHT	
	11	M	HAIRLOSS	14
		SLIGHT		
		HAIRLOSS	14	
		SLIGHT		
		HAIRLOSS	14	
		SLIGHT		
		HAIRLOSS	21	
		SLIGHT		
		CULLED ON SCHEDULED DAY	4	
		SUBCUTANEOUS HEMORRHAGE(S)	0	
		FACIAL AREA		
		HAIRLOSS	14	
		SLIGHT		
		HAIRLOSS	21	
		SLIGHT		

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX SS  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP OBSERVATIONS DURING LACTATION

GROUP 5: 10.0 MG/KG/DAY

(POSITIVE FINDINGS)

DAM NO.	PUP NO.	SEX	PUP GROSS OBSERVATION	LACTATION DAY
627-11	15	F	HAIRLOSS SLIGHT	14
	16	F	HAIRLOSS SLIGHT	14
			HAIRLOSS SLIGHT	21

(1131)

SLI Study No. 3472.4

APPENDIX TT

Individual F2 Pup Weights during Lactation

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX TT  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
306-05	6.9	6.8	7.4	6.8	6.7	7.5	7.2	6.8	5.9	6.7	7.2	7.1	6.8	6.7	7.1	6.5								
311-13	6.7	7.7	6.9	6.8	7.0	7.0	7.2	6.8	7.2	6.7	6.3	6.4	7.0	6.7	5.9	6.3	4.9							
317-13	7.3	7.2	7.7	8.1	6.9	7.2	7.3	7.2	7.4	6.5	7.1	7.0	7.4											
321-10	8.6	8.3	8.4	9.1	9.3	8.3	9.1	9.1	8.3	7.6														
323-12	7.3	D	7.5	7.5	8.2	7.2	7.4	7.7	7.1	7.5	6.9	7.2	7.1	6.8										
345-05	7.3	D	D	7.6	7.4	7.9	8.3	7.4	7.2	7.0	7.0	7.2	7.2	6.8	7.2	6.5								
345-08	7.8	D	8.0	8.4	7.9	8.5	7.6	8.4	7.9	7.3	7.6	7.1	7.0	7.7	8.1	7.8								
348-13	7.4	7.9	7.7	7.2	8.0	7.8	7.3	7.3	7.3	7.4	7.5	6.9	6.8	7.5										
353-11	6.1	6.8	5.9	6.3	5.4	6.0	6.2	5.8	6.0	6.1	6.3	6.0	5.8	6.4	6.1	5.7	D							
355-13	6.1	D	6.9	6.3	6.8	4.9	6.5	6.2	6.4	5.8	6.1	5.7	6.4	6.1	5.6	6.3	5.7							
371-03	7.7	D	7.3	8.3	8.4	8.0	7.6	7.7	7.8	7.2	7.8	7.3	7.6	7.6										
380-09	7.5	7.4	7.8	7.7	6.6	8.1	7.7	7.8	7.6	8.3	7.1	7.7	7.8	7.3	7.0	7.2	7.4							
384-13	7.4	7.1	7.2	7.6	8.6	7.1	7.3	6.8	8.1	7.1	7.1	7.4	7.2	7.1										
388-13	6.7	6.9	7.1	7.3	6.5	7.2	6.6	6.6	6.4	6.4	7.0	7.0	6.4	6.5	6.1	6.4								
390-09	7.2	D	7.0	8.2	7.3	7.3	7.1	7.4	7.2	7.4	7.9	6.8	6.7	6.7	6.6	7.0	7.0							
390-11	8.9	9.2	9.2	9.8	9.2	8.9	8.7	8.3	8.3	8.5	5.6	6.3	6.0	5.8	6.8	6.8	6.6	5.9						
400-10	6.5	6.8	6.7	6.9	6.6	6.6	7.0	7.1	5.9	6.4	5.6	6.3	6.0	5.8	6.8	6.8	6.6	5.9						
403-12	7.4	8.0	7.2	7.0	6.6	7.9	7.3	7.5	6.6	7.1	7.5	7.6	7.7	7.5										
408-12	7.2	D	D	8.1	7.4	7.4	5.5	7.4	7.8	7.7	6.7	7.3	7.2	6.6	7.4	7.0	7.1							
426-14	7.6	7.3	8.1	7.9	8.0	8.1	7.2	7.5	7.3	6.7	8.0	7.8	7.3											
427-14	7.4	D	8.2	7.7	8.0	7.6	6.7	7.3	7.5	D	6.9	7.7	7.2	7.0	6.6	7.7								
449-12	7.0	D	7.7	7.0	7.9	7.5	7.7	6.0	7.9	6.4	7.0	7.3	5.5	7.2	5.8	6.7								
628-07	7.3	7.2	6.7	7.4	7.9	8.1	7.5	7.7	6.6	6.6	7.5	7.3	7.1	6.8	7.1									
628-12	7.0	7.3	7.4	6.9	7.1	7.4	7.2	6.7	7.1	7.1	7.3	6.5	6.5	6.7	6.6	6.4	D							

MEAN 7.3  
S.D. 0.64  
N 24

D = DEAD PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310-04	6.7	7.1	7.2	7.2	6.2	7.6	6.7	6.8	6.3	6.4	6.7	6.4	6.7	5.9	6.1	7.3	7.3	6.1						
312-08	7.1	D	7.1	7.3	7.6	7.1	6.6	7.3	7.4	7.1	5.8	6.7	7.4	7.3										
313-07	6.7	D	7.1	6.7	5.9	7.0	6.9	6.9	6.8	7.6	6.1	7.4	6.9	6.4	6.4	6.0	7.0							
314-12	8.0	D	7.8	8.0	7.4	8.5	8.5	8.2	8.4	8.0	7.9	8.8	7.9	7.2	7.6	7.7								
324-12	7.3	D	D	7.7	7.9	7.7	7.3	8.3	7.0	7.4	7.3	7.3	7.1	6.6	6.0	7.3	7.1	6.7						
329-11	6.9	D	7.2	7.0	7.2	5.9	7.7	7.1	7.4	7.0	7.0	7.1	7.0	6.6	6.3	6.9	6.7							
329-12	7.3	7.2	7.0	7.6	7.5	6.1	8.0	7.5	7.5	8.0	7.2	7.9	8.0	5.8										
354-10	6.7	7.1	6.6	7.8	6.6	7.0	6.7	6.4	6.3	7.2	6.9	6.3	6.4	6.7	6.7	6.8	6.9	6.9	5.9					
363-11	7.1	7.3	6.8	7.6	7.5	6.9	7.7	7.4	7.4	7.2	6.9	7.6	6.6	6.1	6.5	7.0	6.4							
397-09	7.0	6.8	7.8	7.0	7.9	7.3	6.1	7.2	6.4	7.1	7.0	7.5	5.8											
397-15	6.7	6.3	6.9	7.5	6.4	6.5	7.0	7.1	6.0	7.2	6.7	6.3	7.0	6.9	6.5	5.7	6.1	6.5	7.3					
406-04	6.7	D	7.2	6.6	6.9	7.0	5.8	6.2	7.0	6.6	6.2	6.7	6.7	6.7	7.1	7.2	6.1							
409-09	7.4	D	7.8	7.5	7.6	7.6	7.3	7.4	7.4	7.6	7.1	7.0	7.8	7.3	7.1									
411-10	5.8	3.8	6.0	5.6	6.4	6.4	6.1	6.2	6.5	5.9	5.3	5.5	6.5	5.3	5.4	D								
411-11	6.8	7.4	7.3	7.7	6.6	6.9	6.6	6.5	6.4	6.7	7.3	6.6	6.4	6.6	6.4	6.4	7.1	6.9						
419-14	6.5	6.8	6.5	7.3	6.8	6.1	6.7	7.3	6.4	6.4	6.6	6.2	6.8	6.4	6.3	5.8	6.7	5.6						
422-13	7.1	7.2	8.4	6.7	7.5	7.1	6.9	7.0	7.2	7.2	6.7	7.3	7.6	6.9	6.8	6.5	6.9							
423-12	6.7	6.8	6.4	7.1	9.1	6.6	6.6	6.6	6.4	6.3	6.1	6.3	5.9											
428-15	6.7	7.1	6.7	6.9	6.7	6.9	7.3	6.4	6.4	6.8	7.2	6.4	6.7	6.5	7.2	6.7	4.9							
429-12	9.5																							
429-14	7.1	6.9	6.9	7.1	7.0	7.8	7.0	7.1	7.3	7.1	7.5	7.2	7.5	7.2	6.8	7.1	7.2	5.9						
430-17	6.9	8.0	6.6	7.2	7.7	7.6	7.3	6.0	6.1	7.0	6.7	7.0	7.1	6.8	6.1	6.6								
431-11	6.7	7.5	5.0	5.7	6.5	6.3	7.5	5.8	7.0	6.9	7.5	6.3	6.8	6.6	6.6	7.6	7.3	7.1						
440-15	7.2	7.8	7.4	7.5	7.2	7.4	7.0	7.5	7.3	6.8	7.0	6.5	7.7	7.7	7.1	7.4	6.5	6.8						
447-17	6.5	6.6	7.1	6.6	7.0	6.5	6.8	5.9	6.6	6.9	6.2	6.5	6.5	6.2	6.4	6.1	6.2							
629-17	6.5	D	7.0	6.7	7.0	7.1	5.6	5.4	6.4	7.3	6.5	7.1	6.9	6.7	6.1	5.5	6.4	6.9						

MEAN 7.0  
S.D. 0.65  
N 26

D = DEAD PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304-11	7.4	7.9	8.1	8.0	7.3	7.5	7.2	7.9	6.9	7.3	6.9	7.7	6.6	7.0	7.1									
307-13	7.0	D	7.1	6.9	7.6	7.4	7.1	7.5	7.2	6.7	7.1	6.6	6.5	7.1	6.8	6.4	6.4							
338-10	7.2	D	7.6	7.1	7.1	7.7	7.6	D	7.2	6.7	6.8	6.7	7.2	7.3	7.3	D								
340-10	7.3	D	7.0	7.8	7.2	7.6	7.5	7.2	8.1	8.2	8.1	7.3	6.8	6.6	7.1	6.9	6.3	7.0	7.3					
342-05	6.8	7.3	7.3	7.1	7.0	7.8	6.4	6.5	7.1	6.7	6.8	6.0	6.7	5.9										
351-11	7.8	7.5	8.5	8.0	8.1	7.8	7.7	7.3	7.8	7.9	7.7	8.3	7.4											
351-12	7.1	D	4.5	7.1	7.9	7.1	7.4	7.7	7.5	6.8	7.4	6.9	6.0	7.4	7.4	7.8	6.8	7.4						
359-13	7.3	D	D	D	7.6	7.9	8.2	5.2	7.4	7.5	8.4	7.1	7.4	7.2	7.3	6.2	7.3	7.8	7.5					
367-08	6.7	7.7	6.7	6.6	6.4	6.9	6.6	7.4	7.0	6.8	6.4	6.5	6.1	6.6	6.6	6.7	6.6	6.7	6.7	6.7				
367-10	7.6	D	7.4	8.2	7.6	7.6	7.2	7.1	7.5	7.4	7.8	7.9	7.9	6.8	7.5	8.0								
368-10	6.9	7.3	7.3	7.1	7.3	6.6	7.3	7.3	6.5	6.3	6.4	6.5	7.1	6.2	7.0									
372-09	7.6	7.8	8.2	7.8	7.9	8.2	7.7	7.3	7.0	7.1	7.6	6.6	7.7	6.5										
373-08	6.7	7.1	6.6	7.6	6.7	6.6	5.8	5.8	6.8	6.9	6.5	6.6	7.3	6.5										
382-08	6.8	D	6.2	6.6	6.9	6.9	7.3	6.8	6.9	6.2	7.0	7.1	7.7	6.3	6.8	6.7	6.5	6.2						
382-09	7.9	7.9	8.5	7.7	7.9	7.6	7.9	7.7	8.4	7.4	7.8	7.6												
385-07	7.1	D	D	7.4	6.9	7.7	7.3	7.4	6.7	6.4	7.2	6.8	6.8	7.2	6.8									
404-07	5.7	6.1	5.7	5.8	6.2	6.2	5.3	6.5	5.5	5.7	5.9	5.4	5.0	5.8	5.6	4.7								
418-12	8.8	9.1	9.1	9.3	8.8	8.3	8.4																	
421-12	7.2	D	D	6.3	6.9	7.3	7.0	7.3	7.8	7.6	7.8	6.8	7.5	7.1	6.9	7.1	7.0	7.9	7.4					
432-12	7.5	7.6	8.0	7.1	7.5	7.3	7.8	7.1	7.3	7.3	7.9	7.9	7.3	7.4	6.7	7.9	7.5							
439-11	5.8	5.7	5.7	6.4	5.8	5.7	6.5	6.2	5.8	5.7	6.0	5.6	6.0	5.5	5.5	4.9	6.1	6.0						
444-16	7.5	5.2	7.8	7.9	7.8	8.8	8.0	8.2	7.1	6.8	7.6	7.3	7.8	7.2	7.6	7.6								
445-13	7.3	6.6	7.4	8.2	6.5	7.4	7.4	7.1	7.7	7.2	7.6	7.4	7.4	7.0	7.2	7.4								
625-08	6.6	7.3	5.3	6.6	6.7	6.9	7.3	7.2	7.0	6.9	6.9	5.9	6.8	5.7	6.5									
MEAN		7.2																						
S.D.		0.64																						
N		24																						

D = DEAD PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303-07	7.6	8.0	8.9	7.6	7.7	7.4	6.8	7.4	7.1	7.7	8.1	7.2	7.2											
326-09	7.4	D	8.3	7.7	8.4	7.9	7.4	6.8	8.1	7.7	7.3	6.0	6.2	7.2	6.9									
328-08	7.7	D	8.5	7.8	7.9	7.3	7.4	7.5	7.9	7.8	6.8	7.9	7.4	7.5	7.7									
330-01	7.4	D	7.2	7.7	7.5	9.1	7.7	7.4	8.4	7.0	7.1	5.3	7.5	7.3										
344-09	7.3	7.6	7.8	6.8	7.1	D	6.9	7.1	7.6	7.7	6.4	6.7	7.9	7.1	7.5									
346-15	7.6	7.8	7.6	8.3	7.4	7.8	7.9	7.2	7.7	8.3	7.5	7.5	7.8	7.6	6.8	7.8	7.4	7.2						
350-11	7.0	7.3	7.3	7.2	7.1	6.8	6.7	6.5	7.2	7.2	7.2	7.4	7.1	6.7	6.8	6.0								
360-08	7.1	7.7	7.4	7.0	7.0	7.9	6.8	7.3	7.4	7.5	7.0	7.1	6.5	6.8	6.7	6.1	6.8							
361-13	7.4	D	7.5	8.2	7.4	7.6	7.4	7.2	6.9	7.3	7.8	7.2	6.8	7.4	7.5									
365-09	7.8	8.1	8.1	7.8	8.4	8.0	7.0	8.4	7.5	7.3	7.4	7.7	8.2											
374-09	7.0	8.0	7.0	6.9	7.4	7.3	7.5	6.4	7.4	7.5	6.6	6.8	6.8	7.0	6.7	7.0	6.8	6.4						
375-12	7.4	D	7.7	7.6	8.4	8.2	7.3	7.2	7.4	6.9	6.7	7.2	7.1	6.8	7.8									
381-11	7.7	7.8	7.4	7.5	7.8	7.9	8.3	7.8	8.4	7.5	7.6	7.2	7.9	7.5										
393-14	7.6	8.1	7.6	7.8	7.0	7.8	7.9	7.9	6.8	7.3	8.1	7.9	7.6	7.3	7.1	7.1								
398-10	7.4	D	7.2	7.5	7.1	7.6	8.1	7.7	7.9	7.3	6.8	7.4	7.2	6.8										
402-10	7.6	7.5	7.9	6.9	8.2	7.5	8.1	7.1	8.0	7.8	7.2													
416-08	7.5	7.5	8.3	6.5	8.2	7.6	8.0	7.1	7.0	7.0	7.3	7.4												
416-09	7.1	6.8	7.1	7.2	7.2	6.7	6.8	7.0	6.9	6.7	7.0	6.9	9.5	7.2	6.8	6.2								
417-13	7.2	7.1	6.9	7.6	6.8	7.5	7.0	7.5	8.0	7.1	7.2	7.5	6.3	7.5	7.2									
436-08	8.0	8.0	8.8	8.5	9.1	7.9	7.3	7.8	7.9	7.7	7.9	7.3	8.3	8.4	6.9									
436-12	7.9	8.3	7.9	8.1	8.2	8.9	7.8	8.9	8.1	7.3	7.8	6.8	7.8	7.5	8.1	7.7	7.2							
443-12	7.4	D	7.2	7.3	8.1	7.7	7.6	7.3	7.0	7.2	8.3	7.6	7.5	7.2	7.2	6.3								
451-16	7.6	D	7.1	7.8	7.5	7.9	7.4	8.1	7.7	7.6	8.2	7.1	7.8	7.4	6.9	6.8	7.4	8.1						

MEAN 7.5  
S. D. 0.27  
N 23

D = DEAD PUP

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX TT  
 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 5  
 DAY 1

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308-14	7.5	D	D	D	7.3	8.2	7.5	7.5	8.1	7.5	7.3	7.5	7.2	7.0	7.2									
318-04	8.3	9.2	7.7	8.5	7.9	9.0	8.2	7.3	9.2	7.9	8.1	8.2												
318-10	7.1	8.0	7.9	6.4	7.6	7.6	6.8	7.1	7.1	6.9	6.8	6.6	6.8	7.0	6.6	7.2	6.5							
319-10	6.9	7.1	7.2	6.9	6.6	6.5	6.7	7.5	6.9	7.2	7.6	7.1	6.2	6.0	6.5	6.7								
327-04	7.0	7.7	7.2	7.3	6.8	7.0	6.8	D	7.4	7.8	6.0	6.8	6.9	6.8	6.1	6.6	7.0							
331-08	9.2	9.7	9.1	9.1	8.8																			
333-06	5.7	5.6	6.3	5.8	6.4	5.8	5.8	5.8	5.9	4.6	5.5	6.2	5.1	5.7	5.2	6.0	5.5	5.8	5.5					
336-08	8.0	D	8.6	8.2	9.0	7.3	8.0	7.8	8.2	8.3	7.0	8.0	7.3	7.9										
337-07	7.1	6.8	7.6	6.9	7.6	7.1	7.0	7.5	7.0	6.8	7.0	7.2	6.5	7.1	7.6									
358-09	7.5	7.7	7.9	7.3	7.2	7.8	7.3	7.1	8.1	7.5	7.0	7.8	6.7	8.5										
364-13	6.5	7.1	5.9	6.6	7.1	6.1	6.5	6.8	6.7	6.7	6.1	6.5	6.8	6.7	6.2	6.6	6.5	5.9	5.8					
378-10	8.3	D	8.9	8.8	8.9	8.6	8.2	8.2	8.2	8.5	8.2	8.0	8.0	8.6	7.2									
394-11	6.4	6.6	6.6	6.8	6.2	6.1	6.4	6.6	7.1	5.6	6.2	6.3	6.3	6.6	6.3	6.0								
395-15	8.4	8.7	8.5	8.5	8.7	8.4	8.7	7.4																
396-16	7.9	8.2	8.3	8.0	7.6	8.2	7.9	8.3	8.1	8.1	6.9	8.0	8.1	7.6	7.6	7.5								
405-08	6.9	7.5	6.4	7.6	6.7	6.0	7.0	7.2	7.1	7.5	6.9	7.0	6.2	5.9	7.1	6.9	6.7	7.2						
434-10	8.0	D	8.3	7.7	7.8	7.8	8.2	8.1	8.4	8.0	7.7	7.8	8.7	7.9	7.6	7.6								
435-13	7.2	7.5	7.7	7.0	7.3	6.6	7.6	7.6	6.6	7.5	7.5	7.5	7.2	6.8	7.5	6.7								
437-08	7.1	7.6	7.2	7.0	7.3	7.5	7.1	7.2	7.4	6.1	7.1	7.4	6.8	7.3	7.4	6.7	6.5							
438-15	7.0	D	7.5	7.6	7.2	7.2	7.7	7.1	6.8	7.5	6.9	7.1	5.9	7.0	6.9	6.7	6.5							
441-10	NA	D																						
448-04	6.3	6.8	6.0	6.6	6.7	6.7	7.0	6.2	5.7	7.0	5.9	6.4	7.3	5.7	5.7	6.2	6.3	6.9	6.6	D	4.8			
434-08	7.1	D	D	D	7.4	6.9	7.6	8.2	7.3	7.4	6.1	7.4	7.0	6.6	7.0	6.3								
627-11	6.7	6.4	6.9	6.4	6.4	6.7	6.1	7.7	6.5	7.7	5.9	6.3	6.7	7.5	5.9	7.1	6.6							

MEAN 7.3  
 S.D. 0.81  
 N 23

D = DEAD PUP NA = NOT APPLICABLE



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 6  
DAY 4

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
306-05	8.8	9.1	9.6	9.2	8.3	9.5	9.4	8.3	7.5	8.9	9.3	9.2	8.4	8.1	8.9	8.3								
311-13	9.0	10.1	9.0	8.9	D	9.8	10.0	9.4	10.1	9.3	8.3	8.8	8.9	9.1	9.0	8.6	6.3							
317-13	10.2	11.0	10.8	11.1	9.8	10.0	10.4	10.2	10.7	8.9	10.1	9.5	10.4											
321-10	11.8	11.6	11.7	12.6	12.4	11.3	12.4	12.6	10.9	10.4														
323-12	10.1	D	10.8	9.7	10.7	10.1	10.2	10.6	10.1	10.3	9.4	9.9	9.6	10.1										
345-05	10.9	D	D	12.0	10.6	11.9	12.7	11.4	10.0	10.2	10.4	10.0	9.9	11.1	11.0	10.3								
345-08	11.5	D	12.5	12.1	11.8	12.1	10.4	12.1	11.4	11.3	11.3	10.1	11.0	11.5	12.2	11.1								
348-13	10.3	11.0	10.4	10.1	10.5	10.7	10.3	10.0	10.3	10.1	10.5	10.0	10.0	10.1										
353-11	8.2	9.2	7.9	8.5	7.2	8.4	8.2	7.8	8.5	8.2	8.1	8.2	8.1	8.4	8.4	8.0	D							
355-13	8.0	D	9.4	7.9	9.0	5.9	8.7	8.5	8.1	7.7	7.6	7.9	8.2	8.5	7.8	8.3	7.1							
371-03	11.1	D	10.5	11.7	11.6	11.4	11.0	10.6	11.2	9.9	11.5	11.0	11.5	11.3										
380-09	9.7	9.6	9.8	10.2	8.9	10.3	10.1	9.6	9.2	10.7	8.9	10.0	10.3	9.9	8.8	9.1	9.4							
384-13	10.0	9.8	8.2	10.5	11.2	9.4	10.5	9.9	11.4	9.9	10.0	10.0	9.7	9.6										
388-13	9.1	9.2	10.2	8.6	8.9	8.7	9.1	10.0	9.4	8.8	9.1	9.8	8.8	8.5	7.9	8.7								
390-09	10.0	D	10.4	11.2	10.4	10.2	9.6	10.3	11.2	8.5	10.6	10.0	10.1	8.9	8.6	9.4	10.2							
390-11	12.9	13.2	14.8	14.7	13.8	13.6	12.9	12.2	11.9	9.0														
400-10	8.1	8.1	7.9	8.4	7.9	7.7	8.8	9.2	7.5	8.0	7.4	8.0	8.6	7.7	9.0	8.5	7.7	7.8						
403-12	10.8	10.8	10.7	10.9	D	10.8	11.3	10.5	10.3	10.6	11.1	10.8	11.1	11.2										
408-12	9.9	D	11.0	10.7	10.1	7.6	9.6	10.2	10.7	9.9	10.1	9.7	10.2	10.4	9.1	9.9								
426-14	10.8	10.9	11.5	11.3	11.4	11.3	10.5	10.4	10.7	9.7	11.1	10.9	10.3											
427-14	9.8	D	10.5	10.2	10.5	9.7	9.3	D	9.8	D	9.4	10.1	9.3	9.2	9.4	10.3								
449-12	10.7	D	12.0	10.9	12.1	12.4	11.5	9.0	12.2	9.8	10.5	11.4	8.4	11.0	7.8	10.3								
628-07	9.7	10.1	7.9	10.1	10.4	11.1	9.5	10.9	8.9	8.9	10.3	10.0	9.4	8.8	9.3									
628-12	9.7	10.6	10.9	9.9	10.5	9.1	10.3	9.9	10.0	9.4	9.5	8.4	8.8	9.0	9.2	9.6	D							

MEAN 10.0  
S.D. 1.18  
N 24

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX TT  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
310-04	8.7	9.3	9.5	8.2	7.7	10.0	9.1	9.2	7.8	9.7	8.1	8.0	9.7	7.5	7.7	9.3	9.2	8.1							
312-08	10.1	D	10.3	10.8	10.5	10.3	9.9	9.9	10.5	9.8	8.7	9.7	10.4	10.3											
313-07	9.4	D	10.1	10.1	9.3	9.1	9.6	9.9	9.6	10.6	8.2	11.1	9.9	9.1	6.1	8.6	10.0								
314-12	11.3	D	11.4	11.2	10.9	11.8	11.2	11.6	11.7	10.7	11.8	11.4	11.6	11.1	10.8	11.3									
324-12	10.3	D	D	11.0	11.2	11.0	11.5	10.8	10.6	10.7	10.1	10.5	10.1	9.8	7.2	10.4	10.3	9.3							
329-11	10.1	D	10.6	10.1	10.7	8.1	11.1	10.3	10.5	9.7	10.3	10.3	9.4	10.2	9.3	10.5	9.6								
329-12	10.9	11.2	10.6	11.7	11.1	8.3	11.7	11.2	10.7	12.1	10.9	11.9	11.9	8.8											
354-10	9.6	10.0	9.4	10.2	10.4	10.6	9.9	8.7	8.4	10.1	10.0	8.5	9.6	9.9	10.1	10.1	10.0	9.6	8.0						
363-11	10.1	11.2	10.3	10.3	9.9	9.6	10.7	10.5	10.0	10.2	10.2	9.7	9.6	9.1	9.7	11.1	9.1								
377-09	10.4	9.9	11.1	10.1	11.2	10.8	9.2	10.8	10.0	10.9	10.9	10.9	8.7												
397-15	9.4	9.2	9.4	10.4	8.3	8.5	10.6	10.7	9.4	10.0	8.5	9.4	9.5	10.6	9.4	9.0	7.8	8.5	10.4						
406-04	9.4	D	9.8	9.3	9.5	10.0	8.7	8.8	9.7	8.2	9.1	9.4	9.4	9.6	9.7	10.1	9.2								
409-09	10.5	D	10.6	11.0	11.2	11.0	10.4	10.5	10.5	10.4	10.1	10.3	10.9	10.3	9.8										
411-10	6.9	3.4	7.4	6.9	8.2	7.9	D	7.2	7.7	7.2	6.7	6.7	8.4	5.6	6.9	D									
411-11	9.2	9.5	9.1	10.7	9.9	9.3	8.4	8.8	8.2	9.8	9.6	8.1	8.5	9.7	8.8	9.0	10.1	9.5							
419-14	9.0	9.1	8.8	9.7	9.2	8.0	9.4	10.4	8.8	9.2	9.8	8.1	8.9	8.9	9.0	7.8	9.0	8.4							
422-13	10.0	9.4	10.5	10.3	11.1	10.2	10.2	10.6	9.9	9.2	9.1	9.7	10.3	10.9	9.6	9.0	9.8								
423-12	9.2	9.3	9.4	10.1	9.2	9.1	9.1	8.6	9.3	9.7	9.0	8.9	8.3												
428-15	9.7	9.6	9.6	9.8	9.2	10.7	9.8	8.5	9.5	9.2	11.1	10.2	10.7	8.7	10.5	9.4	8.0								
429-12	14.3																								
429-14	10.1	8.5	10.1	10.9	11.0	11.6	8.1	10.5	11.4	D	10.9	9.2	11.2	10.0	9.4	9.9	10.8	8.7							
430-17	9.2	9.9	8.8	9.6	9.3	10.5	9.5	7.9	8.3	9.7	9.2	8.9	9.7	9.2	7.8	9.0									
431-11	9.3	10.4	6.7	7.9	9.1	8.9	10.5	7.6	9.8	9.5	10.1	9.8	9.1	9.3	9.2	9.8	10.7	10.1							
440-15	10.7	11.2	10.6	11.2	10.7	11.4	11.9	11.2	10.8	9.8	11.3	9.8	11.1	11.7	9.6	11.1	9.4	9.6							
447-17	9.3	9.6	10.1	8.7	10.7	9.0	10.1	9.2	8.9	9.4	8.7	9.9	8.8	10.0	9.0	8.4	9.0								
629-17	8.5	D	9.2	8.5	8.7	9.4	7.2	6.6	8.0	9.8	8.4	9.7	9.2	8.3	8.3	7.8	7.9	8.3							

MEAN 9.8  
S.D. 1.27  
N 26

D = DEAD PUP

SLI STUDY NO. : 3472.4  
 CLIENT: NIPERA, INC.

APPENDIX TT

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 8  
 DAY 4

GROUP 3: 2.5 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
304-11	11.0	11.7	12.1	11.6	11.0	11.3	D	11.3	10.1	11.3	9.4	11.1	10.9	9.9	11.0									
307-13	9.5	D	9.5	9.8	10.1	10.0	10.7	9.8	9.5	9.6	9.1	8.8	9.7	9.2	8.5	8.9								
338-10	10.8	D	10.9	10.7	11.2	12.0	11.2	D	10.8	10.2	10.0	9.5	10.6	10.8	11.1	D								
340-10	11.1	D	D	12.1	10.9	11.4	12.2	10.7	12.3	11.8	12.3	11.2	9.9	9.3	11.4	10.9	8.9	D	10.9					
342-05	9.4	10.3	9.9	9.5	9.6	10.9	9.2	8.7	10.4	9.0	8.1	9.0	9.5	8.3										
351-11	12.2	11.8	13.2	12.6	11.8	12.2	12.3	11.7	11.5	12.7	11.6	13.1	11.8											
351-12	10.0	D	4.7	10.1	11.6	10.6	9.8	11.1	11.0	9.7	10.2	10.0	9.6	9.5	10.2	10.1	9.6	11.4						
359-13	11.1	D	D	11.8	11.4	12.8	6.8	11.4	11.9	13.2	11.2	11.1	11.2	11.1	11.2	11.3	9.3	10.2	11.8	11.6				
367-08	9.1	9.2	8.8	9.7	10.0	9.6	9.6	9.7	9.9	9.0	8.8	8.2	8.7	9.2	8.0	8.5	9.1	7.8	10.3					
367-10	10.9	D	10.9	12.2	11.1	11.1	10.9	10.5	11.1	10.5	11.7	9.1	11.9	D	8.1	12.0								
368-10	10.5	10.5	10.7	11.5	11.0	10.8	11.0	11.0	9.9	10.6	10.3	9.6	10.4	9.2	10.6									
372-09	11.0	11.5	11.6	11.8	11.3	11.3	11.5	11.0	10.3	10.7	10.7	9.5	11.1	10.3										
373-08	9.5	9.7	9.4	10.6	9.2	9.6	8.9	8.5	9.7	9.6	9.0	9.6	10.3	9.3										
382-08	9.0	D	8.3	8.2	9.2	8.8	9.8	9.0	9.3	8.5	10.2	9.3	9.9	8.5	8.6	9.0	9.5	8.5						
382-09	12.0	12.0	12.1	12.0	12.4	11.7	11.9	12.0	12.2	11.4	12.1	11.8												
385-07	10.1	D	D	10.3	10.3	10.5	10.3	10.5	9.5	9.6	9.6	9.7	9.3	11.3	10.1									
404-07	8.0	8.8	7.9	7.4	9.6	8.5	7.9	8.9	7.7	7.7	8.1	7.8	7.3	8.1	8.2	5.7								
418-12	13.1	13.4	13.6	13.5	12.7	12.4	13.2																	
421-12	10.2	D	D	8.9	10.6	9.5	10.8	10.6	11.0	10.8	11.2	9.9	10.5	9.8	10.2	10.2	9.1	10.1	9.4					
432-12	11.4	11.4	11.4	11.3	11.1	11.3	12.0	10.3	10.7	10.8	11.9	12.7	12.1	11.1	10.6	11.4	12.1							
439-11	8.5	8.3	8.6	9.6	7.9	8.5	9.1	9.2	8.8	8.1	D	8.1	8.4	8.1	8.2	7.3	9.0	8.3						
444-16	10.8	7.9	11.0	10.5	11.4	12.5	10.7	12.5	9.4	9.8	10.7	10.4	11.7	10.6	11.4	10.7								
445-13	10.6	9.4	11.0	11.7	9.8	10.8	11.0	10.2	10.8	10.1	D	10.4	10.9	10.7	11.1	11.0								
625-08	9.2	11.0	7.9	9.5	8.9	8.5	10.4	8.8	9.7	9.2	9.8	8.3	9.9	8.3	8.5									

MEAN 10.4  
 S.D. 1.21  
 N 24

D = DEAD PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303-07	11.1	11.7	13.1	10.3	10.3	11.2	10.3	10.7	10.8	11.8	11.6	10.1	11.0											
326-09	11.3	D	12.5	12.1	12.2	11.8	11.3	10.5	11.2	12.0	11.2	9.1	10.1	11.5	11.2									
328-08	10.6	D	12.0	11.1	12.1	10.9	10.9	11.0	10.0	9.2	9.2	9.9	10.6	9.9	10.9									
330-01	10.3	9.5	10.2	11.3	12.1	10.7	10.9	10.1	11.3	10.2	9.8	7.5	11.0	9.4										
344-09	11.0	11.6	12.2	10.7	10.3	D	10.5	10.8	11.9	11.3	9.9	11.0	11.3	10.5	11.4									
346-15	11.1	11.2	11.5	11.3	10.2	11.7	11.3	10.6	11.7	11.8	12.0	10.6	11.0	11.4	10.3	11.3	11.1	9.8						
350-11	10.5	10.9	10.7	10.9	10.5	10.6	10.6	9.9	10.8	10.8	10.9	11.1	10.8	9.6	10.1	9.0								
360-08	10.1	10.6	10.8	10.2	9.7	11.1	7.9	10.1	11.4	10.5	10.2	8.9	9.4	10.6	10.4	9.3	9.9							
361-13	9.9	D	10.0	11.2	9.9	9.6	10.1	9.8	8.2	9.6	9.8	9.8	9.6	10.5	10.1									
365-09	11.9	12.0	12.4	12.0	12.4	12.4	10.6	13.0	10.8	11.7	11.5	11.7	12.1											
374-09	10.1	11.2	9.8	10.3	9.8	9.9	10.8	9.9	11.0	11.0	9.9	9.1	10.1	9.9	9.9	9.6	9.3	9.5						
375-12	10.4	D	10.8	10.5	11.3	11.3	10.1	10.3	10.3	10.4	10.3	10.2	9.7	9.7	10.4									
381-11	11.9	11.7	11.0	10.8	11.8	12.1	12.8	12.2	13.1	11.4	12.5	11.5	12.0	11.8										
393-14	11.6	12.0	11.7	12.2	10.8	12.5	11.6	12.2	10.0	10.9	12.7	12.5	11.8	11.6	11.3	10.6								
398-10	10.9	D	10.6	10.6	11.1	10.3	11.6	11.7	11.7	11.0	10.4	11.1	10.2	10.7										
402-10	11.4	11.2	11.5	10.1	12.1	11.3	12.0	10.8	12.0	11.7	10.8													
416-08	11.2	11.7	12.2	9.9	12.0	11.2	11.2	11.3	10.1	10.4	11.3	11.8												
416-09	9.8	9.5	10.2	10.2	10.3	9.9	8.8	10.4	9.7	9.7	9.5	10.0	10.4	10.1	9.2	9.2								
417-13	10.2	10.1	10.3	10.7	10.1	11.4	9.9	10.4	10.2	10.6	9.4	10.8	9.4	10.0	10.0									
436-08	12.4	12.4	14.1	12.8	14.2	13.0	12.1	12.9	11.9	12.1	12.7	10.9	12.3	12.3	10.2									
436-12	10.8	11.2	10.7	10.8	11.6	11.6	10.8	12.0	11.1	9.7	10.7	9.7	10.9	10.4	11.3	10.2	9.6							
443-12	10.0	D	9.8	10.0	10.8	10.2	10.5	9.6	9.5	9.6	11.3	10.2	9.9	9.6	10.0	8.5								
451-16	11.0	D	11.3	12.1	11.1	10.4	11.3	11.3	11.8	11.5	11.0	11.2	10.1	10.1	10.1	9.0	10.7	12.0						

MEAN 10.8  
S. D. 0.71  
N 23

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 10  
DAY 4

APPENDIX TT

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308-14	11.0	D	D	D	10.6	12.5	10.9	9.7	12.3	10.5	10.6	10.8	11.1	10.1	11.4									
318-04	12.2	13.1	12.2	12.3	12.1	13.6	11.9	11.1	12.7	12.7	13.4	11.4	12.3	12.1	12.8									
318-10	10.0	11.3	10.3	9.5	11.4	10.5	9.6	10.9	10.1	9.5	10.4	9.3	9.8	10.5	9.5	8.7	8.8							
319-10	10.1	10.3	10.1	10.5	10.1	9.4	10.1	10.4	9.4	10.5	11.2	10.3	9.7	8.6	10.3	9.9								
327-04	10.6	10.6	11.7	11.1	9.8	10.4	10.5	D	11.0	11.8	9.7	10.8	11.0	D	9.0	9.5	10.9							
331-08	14.8	15.9	14.9	14.4	14.1																			
333-06	7.4	7.6	8.8	7.2	8.6	8.2	8.1	0.0	7.6	6.5	8.2	8.9	6.8	7.8	7.3	8.4	7.6	8.1	7.7					
336-08	12.6	D	13.5	12.7	13.4	12.2	12.4	12.7	12.7	13.4	11.4	12.3	12.1	12.8										
337-07	10.3	8.6	11.3	10.6	10.6	10.2	8.7	10.9	10.9	D	9.4	11.2	9.9	10.6	11.5									
358-09	9.8	10.5	11.1	9.4	9.6	10.0	7.9	9.9	10.7	9.5	10.1	10.2	8.5	10.4										
364-13	8.8	9.7	8.4	9.2	10.5	8.6	8.9	9.1	9.0	9.4	8.5	8.6	8.7	8.8	7.2	8.2	8.9	7.8	8.1					
378-10	10.8	D	11.9	11.8	11.3	10.5	11.1	11.5	11.1	10.4	10.3	9.9	10.7	9.6										
394-11	9.7	9.7	10.4	10.6	9.4	9.5	9.6	9.7	10.4	8.8	9.4	9.7	D	9.8	9.3	9.4								
395-15	11.6	12.4	11.7	11.7	12.5	10.9	11.8	10.4																
396-16	10.2	10.1	10.6	9.9	10.3	11.2	9.7	11.0	9.9	8.8	10.0	9.0	11.5	9.8	11.1	10.4								
405-08	8.4	D	8.0	9.2	8.3	7.0	9.8	9.5	8.3	9.2	7.9	8.5	6.2	6.7	8.3	9.2	8.9	8.9						
434-10	11.5	D	11.8	11.3	11.1	11.8	12.2	11.5	11.9	11.4	11.1	11.3	11.8	11.2	11.1	11.0								
435-13	9.3	9.0	9.7	9.5	9.5	8.5	9.6	9.5	9.1	9.5	8.5	10.1	10.1	8.8	8.7	9.4								
437-08	9.6	10.6	9.9	9.3	9.7	9.9	9.4	10.4	9.4	8.8	9.1	9.3	9.9	9.5	10.6	8.6	9.8							
438-15	10.1	D	9.4	9.9	10.4	9.9	10.6	10.1	10.5	11.0	10.5	10.1	8.3	10.7	10.5	10.1	9.8							
448-04	9.2	9.6	7.6	8.5	9.3	10.1	9.5	8.5	8.1	10.6	9.3	9.0	10.6	9.0	8.2	9.4	9.5	9.9	10.7	D	7.6			
434-08	11.9	D	D	11.7	11.8	12.5	13.7	12.4	12.3	10.5	12.2	11.5	11.0	11.7	11.0									
627-11	8.8	9.3	9.7	7.9	8.7	8.8	7.9	9.6	8.9	9.7	8.4	8.2	8.8	9.7	7.9	9.2	8.8							
MEAN	10.4																							
S. D.	1.59																							
N	23																							

D = DEAD PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

PAGE 11  
DAY 7

APPENDIX TT

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
306-05	14.8	15.3	15.2	C	14.3	16.1	C	C	C	14.0	C	C	14.2	C	14.9	14.0								
311-13	14.8	C	14.8	C	D	14.9	C	C	16.1	15.1	C	14.5	15.1	C	14.1	13.9	C							
317-13	16.0	C	17.1	C	C	16.3	16.6	15.5	C	13.8	16.1	15.3	16.9											
321-10	17.8	17.5	C	18.9	18.5	17.1	18.3	18.8	17.4	16.1														
323-12	15.7	D	14.8	16.8	16.0	16.4	16.1	C	15.6	C	14.7	14.9	C											
345-05	17.4	D	18.8	17.5	18.6	C	18.0	16.4	16.7	C	C	C	C	16.2	17.1	C								
345-08	18.6	D	C	20.2	19.0	C	C	20.1	18.8	C	18.5	16.1	C	18.7	C	17.6								
348-13	16.4	17.1	C	16.5	C	17.4	C	15.9	16.1	C	16.8	C	15.8	15.4										
353-11	13.6	C	13.4	C	12.4	13.6	13.9	C	14.1	13.9	13.9	C	C	C	13.6	C	D							
355-13	13.0	D	15.6	12.4	14.6	9.7	C	C	12.4	12.1	C	C	C	14.6	C	12.9								
371-03	18.1	D	17.4	19.0	C	18.6	18.0	17.3	17.6	C	18.4	18.3	C											
380-09	15.8	C	C	C	14.6	C	16.8	16.2	C	C	15.8	C	16.7	15.7	15.0	15.2	C							
384-13	16.7	16.2	C	17.3	18.7	15.6	C	16.0	18.1	C	C	C	15.6	15.7										
388-13	15.2	15.0	17.4	C	C	C	14.3	16.7	C	C	C	C	16.5	14.9	C	12.8	13.8							
390-09	17.0	D	17.3	18.7	C	18.2	C	16.8	C	C	17.3	C	C	15.9	15.3	16.4	C							
400-10	15.0	C	21.4	21.1	20.4	19.3	19.6	18.3	18.0	14.6	C	C	C	C	16.0	15.1	C	14.1						
403-12	17.3	17.4	17.2	17.2	D	17.6	C	C	16.3	16.8	17.9	C	18.0	C										
408-12	15.5	D	D	C	C	16.5	12.1	16.5	C	15.4	C	16.2	14.7	16.1	16.1	C								
426-14	17.4	16.8	18.4	17.8	17.8	C	C	16.7	C	D	17.9	17.5	16.1											
427-14	16.3	D	16.9	16.3	17.4	16.0	C	D	15.4	C	C	16.7	15.1	C	C	16.8								
449-12	17.4	D	19.2	18.3	C	C	18.5	14.3	C	C	C	19.3	14.1	18.5	C	17.2								
628-07	15.4	15.2	11.8	15.5	C	17.1	16.0	16.1	C	C	16.8	C	C	14.7										
628-12	15.6	C	C	15.9	C	C	16.7	C	16.9	C	16.2	14.3	14.1	14.4	C	16.1	D							

MEAN 16.2  
S.D. 1.50  
N 24

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310-04	13.8	15.5	15.6	C	13.0	C	C	14.2	C	C	C	12.7	C	11.9	C	C	14.6	12.9						
312-08	15.5	D	15.6	16.3	15.9	15.3	15.4	15.2	C	C	C	C	14.6	15.3										
313-07	15.3	D	C	15.5	C	14.9	17.1	15.1	C	C	13.2	C	C	15.0	C	15.3	16.0							
314-12	17.6	D	C	17.0	C	C	17.4	C	C	15.9	19.2	C	17.9	17.7	17.3	18.0								
324-12	16.4	D	D	C	17.6	17.2	17.8	17.0	16.1	C	C	16.0	C	14.5	C	C	14.9							
329-11	15.9	D	C	15.9	16.4	C	16.7	C	16.3	15.6	15.9	C	C	C	C	C	16.2	14.4						
329-12	17.8	18.6	C	C	17.9	C	18.6	C	16.5	19.3	17.6	C	19.4	14.7			16.9	16.5	C	14.4				
354-10	16.2	C	C	C	18.7	17.0	C	16.8	18.5	17.1	17.2	C	C	15.6	C	C	17.7	C						
363-11	16.9	C	C	C	C	C	C	17.4	14.4	C	15.4	17.4	16.7	17.3	12.6									
377-09	15.8	15.0	C	C	C	C	17.4	14.4	C	15.4	17.4	16.7	17.3	12.6										
397-15	14.2	C	16.2	C	C	13.5	16.2	C	C	16.4	10.1	14.6	C	C	C	C	12.6	14.3	C					
406-04	15.7	D	16.3	16.2	15.5	16.6	14.4	C	C	15.9	14.8	C	15.7	C	C	C	C							
409-09	17.5	D	17.9	C	18.5	17.7	17.6	C	C	C	16.8	16.6	17.7	C	16.9									
411-10	11.0	4.0	12.3	C	8.8	C	D	12.5	13.1	12.8	10.7	C	C	14.1	C	D								
411-11	15.1	15.7	14.4	C	C	14.4	14.1	C	C	C	C	C	C	15.5	D	C	16.3	15.5						
419-14	14.6	14.5	C	C	14.7	C	C	16.4	14.9	14.3	C	13.4	14.0	C	C	C	14.5	C						
422-13	15.5	15.7	16.9	15.4	17.1	14.5	C	C	14.4	14.4	C	C	C	15.5	C	C	C							
423-12	13.9	C	C	C	14.3	13.5	15.0	13.7	C	14.9	13.7	13.9	12.4											
428-15	16.2	C	15.8	16.6	16.3	17.5	C	C	16.5	15.4	C	16.3	C	15.1	C	C	C							
429-12	21.7	21.7																						
429-14	16.8	C	17.2	17.8	C	18.1	C	C	18.1	D	17.5	C	C	16.5	14.2	15.0	C	C						
430-17	14.5	15.3	14.2	13.0	C	16.1	15.1	C	C	15.4	11.8	C	15.0	C	C	C								
431-11	15.3	17.2	11.8	13.4	15.3	C	C	C	C	16.6	C	C	C	C	16.0	15.8	C	16.4						
440-15	18.3	19.0	C	C	C	18.3	C	19.0	18.8	C	16.8	18.7	C	C	18.9	16.6	C	C						
447-17	14.6	C	15.5	13.5	C	C	C	14.4	C	15.5	C	15.4	14.2	15.4	C	13.0	C							
629-17	14.7	D	16.4	C	C	15.0	11.6	C	14.0	C	14.2	15.8	15.8	C	C	C	14.6							

MEAN 15.8  
S.D. 1.94  
N 26

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

APPENDIX TT

GROUP 3: 2.5 MG/KG/DAY

DAM NO. PUP NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
MEAN

304-11	16.9	18.3	18.1	17.2	17.4	17.2	D	16.8	C	C	C	C	14.2	16.1									
307-13	15.9	D	16.1	C	16.4	16.5	C	17.8	C	C	16.4	C	14.8	C	14.6	14.7							
338-10	17.1	D	C	17.4	17.8	19.4	18.0	D	16.3	16.6	C	C	15.3	C	16.3	D							
340-10	17.5	D	D	19.1	16.9	C	C	C	C	19.0	18.7	17.4	15.4	C	18.3	C	15.0	D	C				
342-05	15.6	C	16.3	C	16.1	16.0	17.8	14.7	15.1	C	C	13.9	15.2	C									
351-11	18.8	18.2	19.6	19.4	C	18.4	C	18.6	18.1	C	C	19.5	18.9	C									
351-12	16.5	D	7.9	C	C	17.9	18.0	C	C	C	17.7	C	16.3	16.7	18.0	C	C	19.5					
359-13	17.5	D	D	18.1	C	19.1	C	C	17.7	19.2	C	17.0	C	17.8	14.5	16.9	C	C					
367-08	15.6	16.5	16.1	16.0	C	C	16.7	C	C	15.5	C	14.5	C	15.7	C	13.7	C						
367-10	18.1	D	17.6	20.0	18.4	17.2	18.7	C	C	C	19.8	C	D	14.5	18.9								
368-10	17.5	C	18.2	18.7	17.6	17.3	C	C	16.5	C	17.5	C	17.3	C	17.2								
372-09	17.6	C	19.0	18.6	C	17.5	18.3	16.9	16.0	C	C	C	17.8	16.7									
373-08	15.5	15.8	15.0	17.0	C	15.8	15.3	C	C	C	14.8	15.2	C	14.8									
382-08	15.0	D	13.7	13.7	15.9	C	15.7	C	15.8	C	C	16.0	C	C	14.0	C	15.5	C					
382-09	19.3	C	20.1	19.8	C	19.0	19.7	19.4	C	18.1	19.5	19.1											
385-07	16.4	D	D	16.5	C	16.6	16.9	16.6	C	C	16.0	C	15.1	17.6	16.0								
404-07	11.9	C	11.4	10.9	C	C	12.0	13.3	C	12.1	C	12.4	10.9	12.2	C								
418-12	19.0	19.2	19.2	19.7	18.8	17.9	19.0																
421-12	15.6	D	D	13.9	C	15.1	C	C	C	16.6	17.3	15.3	15.5	14.7	C	C	C	16.2	C				
432-12	18.7	C	19.0	18.3	17.8	18.8	C	C	18.1	C	19.0	19.8	C	18.5	C	C							
439-11	13.6	12.3	C	14.6	13.1	13.3	C	C	C	C	12.9	D	C	13.5	C	C	15.2	13.7					
444-16	17.5	C	16.8	18.5	18.5	C	C	18.5	C	15.8	17.1	16.2	18.7	C	C								
445-13	16.9	C	16.3	18.2	C	17.5	C	16.1	17.2	14.9	D	C	17.1	C	17.8	C							
625-08	14.7	17.6	C	14.1	14.3	C	14.5	C	15.1	14.2	15.7	C	11.7	C	C								

MEAN 16.6  
S.D. 1.76  
N 24

D = DEAD PUP, C = CULLED PUP



APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
303-07	17.2	17.2	20.1	14.3	C	17.8	C	16.5	C	16.0	18.3	C	17.2												
326-09	18.0	D	18.8	17.8	18.9	18.1	17.8	C	18.0	C	C	C	C	17.1	17.3										
328-08	17.7	D	19.3	18.2	17.4	17.7	C	17.9	C	C	C	C	17.3	16.5	17.4										
330-01	17.5	C	17.8	C	19.8	18.6	18.0	C	19.1	16.7	16.8	12.8	C												
344-09	17.3	18.2	18.1	16.2	16.7	D	15.8	C	19.0	C	C	16.6	C												
346-15	18.8	C	18.9	C	C	19.1	C	C	18.9	20.3	C	18.4	18.0	C	17.8	18.6	C	C							
350-11	17.4	C	17.4	C	17.4	17.5	C	17.6	C	C	C	17.2	15.4	17.1	C	18.2	15.6	C							
360-08	16.5	C	C	C	17.4	C	13.7	17.3	C	C	17.1	16.2	16.7	C	17.2										
361-13	16.7	D	16.6	C	16.6	16.5	16.8	C	C	C	16.8	18.3	16.2												
365-09	18.2	19.1	18.5	17.2	C	19.9	C	19.7	C	C	C	16.1	C	16.5	16.0	C	C	C	15.4						
374-09	16.0	C	15.4	16.3	16.0	16.4	C	C	C	C	C	16.1	C	16.1	17.6										
375-12	17.3	D	18.1	C	17.8	19.0	C	C	16.2	C	17.1	16.2	C	16.1	17.6										
381-11	18.7	18.9	17.6	C	19.5	19.7	C	C	C	18.4	C	17.8	18.8	19.2											
393-14	18.3	18.4	C	19.4	16.2	C	18.6	C	C	16.6	19.3	C	18.9	C	18.6	C									
398-10	18.0	D	18.1	C	17.3	C	19.3	18.8	C	18.6	17.3	C	17.4	17.5											
402-10	15.1	15.7	14.8	C	16.1	14.3	C	14.8	15.2	15.2	14.7														
416-08	17.4	17.7	18.0	C	18.2	17.2	C	17.6	15.7	C	16.4	18.2													
416-09	15.8	C	16.3	C	16.8	C	C	C	C	15.7	15.1	C	17.2	16.0	14.9	14.5									
417-13	16.4	C	16.7	17.0	15.7	C	C	17.1	16.6	16.5	C	16.4	15.5	C											
436-08	19.4	19.5	21.5	C	C	20.5	C	19.8	19.0	19.0	19.1	C	C	C	16.5										
436-12	17.9	18.4	C	18.4	18.6	C	17.8	C	C	17.0	C	18.2	C	18.1	17.0	C									
443-12	16.2	D	C	16.4	17.2	C	16.5	15.5	C	C	C	17.4	16.8	16.3	C	13.6									
451-16	16.7	D	C	C	C	C	16.1	18.1	17.8	C	18.6	16.8	C	16.0	C	13.9	16.6	C							
	MEAN																								
	S.D.																								
	N																								

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308-14	17.5	D	D	D	17.4	19.3	C	16.0	19.0	16.2	17.9	C	C	16.9	17.5									
318-04	18.7	C	19.4	20.3	18.5	C	19.0	17.7	C	17.4	19.3	18.2												
318-10	17.0	19.6	17.3	16.1	C	16.0	C	17.6	C	C	17.3	C	C	C	16.0	15.9	C							
319-10	16.5	C	C	C	C	C	C	17.4	15.7	C	18.5	17.1	16.0	14.6	17.1	15.5	C							
327-04	16.9	C	18.0	C	16.3	16.7	C	D	C	18.7	C	17.1	17.8	D	15.1	15.7	C							
331-08	23.3	24.6	24.0	21.9	22.6																			
333-06	12.2	C	14.6	11.6	C	C	C	D	12.4	9.6	C	C	10.3	C	12.0	13.9	C	C	12.8					
336-08	20.3	D	21.8	20.9	C	19.6	20.2	C	C	C	19.0	19.8	20.1	20.9										
337-07	16.7	C	18.2	C	17.7	15.8	15.0	17.2	C	D	15.4	18.1	C	16.2	C									
358-09	15.0	17.2	C	13.9	14.5	16.0	12.0	C	C	C	15.5	C	D	15.8										
364-13	15.4	16.2	C	C	17.6	C	14.7	C	15.8	C	14.2	C	15.0	15.4	C	14.0	C	C	C					
378-10	16.9	D	D	C	18.1	17.9	C	16.9	18.3	C	16.7	C	15.6	16.9	15.1									
394-11	16.4	C	17.4	C	C	C	16.4	16.5	17.0	15.5	C	C	D	16.2	15.5	16.3								
395-15	17.3	18.4	17.6	17.2	18.2	16.2	17.7	15.9																
396-16	15.6	15.1	16.1	C	C	17.1	14.4	C	C	C	15.1	14.4	16.9	C	C	15.8								
405-08	13.4	D	C	14.8	13.2	11.6	15.1	14.9	C	C	C	C	11.0	C	12.9	14.0	C	C						
434-10	18.9	D	C	18.4	C	19.6	C	19.1	C	C	C	18.7	19.7	18.4	18.1	18.8								
435-13	15.6	C	C	16.4	16.6	13.3	15.9	C	15.4	15.9	C	C	16.6	C	14.6	C								
437-08	14.6	14.3	C	C	C	C	14.7	C	15.4	C	13.8	14.0	14.8	C	C	14.3	15.7							
438-15	17.7	D	C	C	C	17.2	C	18.1	16.9	17.0	18.1	17.6	C	C	18.7	17.7	C	C						
448-04	16.2	16.9	C	C	C	17.3	C	14.4	14.4	C	C	16.0	C	15.0	C	16.7	C	18.8	D	C				
434-08	19.6	D	D	C	C	19.3	18.9	21.7	20.1	19.5	C	19.7	C	17.7	19.5	C								
627-11	14.2	C	C	C	C	14.5	12.8	C	C	C	14.0	13.6	14.6	C	13.5	15.7	14.7							

MEAN 16.8  
S.D. 2.38  
N 23

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
306-05	31.8	33.1	32.0	C	30.4	33.4	C	C	C	31.0	C	C	31.5	C	32.3	30.4								
311-13	30.6	C	30.0	C	D	31.1	C	C	33.8	30.4	C	30.3	29.5	C	30.2	29.1	C							
317-13	33.5	C	35.0	C	C	33.0	34.7	33.1	C	31.0	33.1	34.0	34.1											
321-10	33.9	33.7	C	34.6	35.1	33.6	34.4	33.8	32.6	33.0														
323-12	32.1	D	30.3	31.8	32.8	34.1	32.4	C	32.9	C	32.3	29.9	C	C										
345-05	33.3	D	33.7	33.4	35.9	C	34.6	33.2	32.1	C	C	C	31.2	C	31.2	32.4	C							
345-08	31.4	D	C	33.2	32.3	C	C	33.4	31.8	C	30.8	27.6	C	31.8	C	30.6								
348-13	33.8	34.2	C	35.2	C	35.9	C	32.9	33.0	C	35.8	C	32.0	31.4										
353-11	28.0	C	27.8	C	25.9	29.1	27.7	C	28.6	28.3	28.2	C	C	C	28.0	C	D							
355-13	30.5	D	34.8	29.8	32.8	26.2	C	C	C	28.3	29.2	C	C	32.7	C	30.2								
371-03	34.7	D	33.2	36.0	C	36.8	34.5	34.1	33.4	C	35.4	34.4	C											
380-09	31.1	C	C	C	29.8	C	31.7	31.6	C	C	31.2	C	32.6	31.1	30.6	29.8	C							
384-13	36.2	35.9	C	37.0	38.5	34.3	C	35.2	39.4	C	C	C	34.7	34.8										
388-13	34.6	34.1	37.8	C	C	C	D	36.2	C	C	C	C	36.7	33.5	C	31.1	32.7							
390-09	35.1	D	35.9	37.9	C	37.7	C	35.5	C	C	34.9	C	C	31.3	33.5	33.8	C							
390-11	36.2	C	C	34.1	33.7	33.7	C	33.9	32.7	C	C	C	C	C	35.1	33.4	C	29.3						
400-10	33.2	C	C	34.1	33.7	33.7	C	33.9	32.7	C	C	C	C	C	35.1	33.4	C							
403-12	36.6	36.9	35.7	36.9	D	37.2	C	C	34.9	36.2	37.2	C	37.9	C										
408-12	34.1	D	D	C	C	37.5	28.7	35.5	C	34.6	C	35.2	33.0	34.9	33.7	C								
426-14	34.0	33.3	31.6	34.8	34.4	C	C	33.5	C	C	C	35.2	33.8	35.5										
427-14	32.0	D	34.1	33.2	34.4	31.6	C	D	29.8	D	C	30.6	30.7	C	C	31.9								
449-12	34.0	D	36.7	36.4	C	C	35.9	29.3	C	C	C	35.3	29.4	34.7	C	34.2								
628-07	35.0	35.1	30.7	35.7	C	37.4	35.9	36.0	C	C	36.5	C	C	33.0										
628-12	34.0	C	C	35.4	C	C	35.3	C	36.3	C	34.5	32.1	31.9	31.1	C	35.2	D							

MEAN 33.3  
S.D. 2.06  
N 24

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310-04	24.8	27.3	26.6	C	25.2	C	C	26.0	C	C	C	24.5	C	22.7	C	C	21.9	23.8						
312-08	30.5	D	31.4	31.0	30.3	30.0	D	30.8	C	C	C	C	29.4	30.9										
313-07	32.5	D	C	30.6	C	32.0	33.4	33.6	C	C	30.6	C	C	32.5	C	32.8	34.4							
314-12	36.5	D	C	33.8	C	C	35.7	C	C	33.9	40.8	C	36.7	36.8	36.4	37.6								
324-12	34.2	D	C	35.8	34.0	34.8	35.6	34.2	C	C	34.0	C	C	32.2	C	C	32.8							
329-11	33.4	D	C	33.7	34.1	C	34.5	C	32.5	32.7	33.9	C	C	C										
329-12	36.1	37.0	C	C	37.2	C	36.7	C	34.4	39.0	35.2	C	37.5	32.0										
354-10	34.3	C	C	C	37.9	35.5	C	34.9	31.0	C	C	C	34.3	C	C	34.6	34.1	C	32.2					
363-11	34.8	C	C	C	C	35.5	37.1	35.6	34.1	C	C	C	34.3	C	C	36.1	C							
377-09	33.6	33.7	C	C	C	34.8	31.4	C	33.3	35.6	34.9	35.8	28.9											
397-15	33.1	C	37.9	C	C	32.1	35.8	C	C	37.4	20.4	34.4	C	C	C	C	32.1	34.8	C					
406-04	30.9	D	32.8	31.3	31.2	31.3	29.4	C	31.1	29.4	C	30.6	C	C	C	C								
409-09	36.1	D	37.8	C	36.9	36.8	35.7	C	C	34.7	35.4	37.4	C	33.9										
411-10	28.6	10.3	32.4	C	35.2	C	D	32.6	33.9	32.2	28.6	C	C	23.9	C	D								
411-11	34.3	35.9	34.8	C	C	32.5	33.2	C	C	C	C	C	C	34.4	D	C	35.1	34.4						
419-14	32.2	32.7	C	C	32.5	C	C	33.9	32.2	31.6	C	30.9	31.5	C	C	C	32.6	C						
422-13	33.1	31.2	36.8	32.7	35.5	32.5	C	C	31.4	31.9	C	C	C	33.1	C	C								
423-12	27.7	C	C	C	28.6	27.5	28.8	27.1	C	29.1	27.5	27.0	26.0											
428-15	34.5	C	34.5	35.4	34.5	37.2	C	C	34.4	32.4	C	34.1	C	33.6	C	C								
429-12	50.7	C	34.9	34.6	C	34.8	C	C	34.6	D	34.6	C	C	33.4	30.1	32.1	C	C						
430-17	29.9	31.6	30.8	27.8	C	32.2	30.9	C	C	30.5	26.6	C	C	28.8	C	C								
431-11	34.2	37.0	27.9	31.7	34.5	C	C	C	C	36.0	C	C	C	C	34.7	35.8	C	35.6						
440-15	38.8	39.9	C	C	36.6	C	40.8	39.1	C	36.3	39.5	C	C	39.9	38.1	C	C	C						
447-17	31.1	C	31.6	30.2	C	C	C	30.5	C	32.7	C	30.8	30.1	33.7	C	29.4	C	C						
629-17	33.4	D	36.1	C	C	34.0	29.5	C	32.2	C	33.1	34.8	34.2	C	C	C	33.1	34.8	34.2	C	C	C	C	33.1

MEAN 33.6  
S.D. 4.57  
N 26

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 3: 2.5 MG/KG/DAY

DAM NO. PUP NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
MEAN

304-11	34.8	35.4	36.3	34.9	35.9	35.5	D	34.5	C	C	C	C	31.2	34.5								
307-13	33.9	D	34.5	C	33.0	34.8	C	36.5	C	C	35.1	C	33.4	C	C	31.9	32.2					
338-10	35.0	D	C	36.6	35.5	36.6	35.5	D	34.5	34.1	C	C	33.6	C	33.5	D						
340-10	39.1	D	D	41.5	39.5	C	C	C	C	41.7	40.2	38.6	35.4	C	38.8	C	36.7	D	C			
342-05	32.1	33.8	C	32.8	32.5	36.0	30.2	30.9	C	C	30.9	29.9	C									
351-11	39.1	40.5	39.3	40.0	C	38.6	C	38.0	37.9	C	C	38.6	40.0	C								
351-12	37.2	D	22.8	C	C	39.6	37.6	C	C	C	39.6	C	37.6	37.8	40.6	C	C	41.8				
359-13	32.2	D	D	31.6	C	C	33.9	C	C	C	32.6	35.1	C	31.2	C	31.8	29.3	31.7	C	C		
367-08	34.8	36.5	35.1	35.2	C	C	C	36.3	C	C	34.6	C	33.3	C	34.8	C	32.9	C				
367-10	36.3	D	33.7	38.4	35.8	37.4	37.8	C	C	C	C	37.8	C	D	31.5	38.3						
368-10	38.1	C	38.0	39.1	37.7	39.1	C	C	36.9	C	38.9	C	38.0	C	36.8							
372-09	35.0	C	36.1	36.5	C	35.8	35.7	34.3	32.2	C	C	C	34.9	34.4								
373-08	29.6	30.8	28.0	31.5	C	29.5	29.2	C	C	C	29.5	29.1	C	29.4								
382-08	31.0	D	26.3	30.9	31.9	C	33.7	C	30.1	C	C	33.3	C	C	30.3	C	31.5	C				
382-09	36.4	C	37.3	37.4	C	36.2	37.9	35.9	C	34.0	35.4	37.3										
385-07	35.0	D	D	35.2	C	36.3	35.5	35.5	C	C	35.0	C	32.6	36.4	33.3							
404-07	28.4	C	27.9	26.4	C	C	29.1	30.3	C	28.3	C	29.1	27.5	28.7	C							
418-12	35.9	35.7	35.7	36.8	36.1	34.9	36.3															
421-12	36.2	D	D	32.7	C	34.8	C	C	C	38.7	38.8	35.8	36.2	34.5	C	C	38.1	C				
432-12	38.5	C	39.8	38.5	37.5	38.7	C	C	C	37.4	C	38.6	39.4	C	38.2	C	C					
439-11	32.1	30.1	C	33.8	31.4	32.2	C	C	C	C	30.4	D	C	32.1	C	C	C	34.7	32.3			
444-16	34.3	C	35.5	33.2	35.8	C	C	C	35.2	C	33.5	33.4	32.0	36.0	C	C	C					
445-13	36.8	C	36.8	39.3	C	37.2	C	36.5	36.5	34.3	D	C	36.6	C	37.0	C						
625-08	33.0	37.7	C	32.7	31.0	C	33.1	C	32.5	34.2	34.3	C	28.8	C	C							

MEAN 34.8  
S.D. 2.86  
N 24

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303-07	34.6	35.5	38.3	31.7	C	36.3	C	32.1	C	33.3	37.9	C	31.8											
326-09	33.9	D	35.2	34.4	34.0	33.7	33.1	C	34.1	C	C	C	C	C	32.9	33.7								
328-08	35.7	D	38.9	36.0	36.3	35.8	C	34.3	C	C	C	C	C	34.9	33.7	35.7								
330-01	34.1	C	34.5	C	37.9	35.1	34.9	C	35.9	32.2	32.9	29.1	C											
344-09	32.5	34.0	32.3	31.5	32.0	D	32.1	C	34.7	C	C	31.3	C	C	32.4									
346-15	39.5	C	39.7	C	C	41.1	C	C	40.0	41.7	C	37.8	37.9	C	37.5	39.9	C	C						
350-11	35.7	36.3	C	36.2	C	36.1	35.2	C	35.5	C	C	35.5	35.3	C	35.1	C								
360-08	32.6	C	C	C	34.5	C	29.8	35.2	C	C	36.0	33.7	32.2	C	35.8									
361-13	35.1	D	36.0	C	35.3	35.0	36.4	C	C	C	C	34.1	C	35.2	35.9	C	C	C						
365-09	38.2	37.9	39.2	37.6	C	39.4	C	39.9	C	C	C	36.3	36.2	C	34.6	37.7								
374-09	35.1	C	35.0	35.6	35.3	34.8	C	C	C	C	C	34.7	C	35.3	35.4	38.0								
375-12	37.1	D	37.7	C	38.1	39.9	C	C	C	36.6	C	34.7	C	36.3	36.2	C	37.0							
381-11	36.7	37.4	37.2	C	36.9	38.9	C	C	C	C	C	34.7	C	35.3	35.4	38.0								
393-14	37.8	37.9	C	39.0	36.0	C	37.8	C	C	C	35.8	40.3	C	38.8	C	37.0	C							
398-10	36.8	D	37.1	C	36.5	C	37.9	38.5	C	37.2	36.0	C	36.4	34.9										
402-10	30.5	31.1	31.1	C	32.1	28.1	C	30.3	30.6	31.3	29.3													
416-09	32.3	C	34.0	C	33.6	C	C	C	C	32.4	30.1	C	33.9	31.3	31.8	30.9								
417-13	33.8	C	33.6	34.8	31.9	C	C	36.7	35.0	32.1	C	34.0	31.9	C										
436-08	33.2	33.1	35.3	C	C	34.5	C	34.6	32.3	32.1	33.6	C	C	C	30.0									
436-12	36.9	38.2	C	36.8	37.8	C	36.7	C	C	36.7	C	37.3	C	37.3	C	36.4	34.9	C						
443-12	32.6	D	C	33.4	33.8	C	33.6	32.0	C	C	C	33.5	33.1	32.7	C	28.9								
451-16	35.6	D	C	C	C	C	36.8	38.2	36.8	C	37.0	33.3	C	34.9	C	33.1	35.0	C						

MEAN 35.1  
S. D. 2.21  
N 23

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	MEAN																								
308-14	34.5	D	D	D	34.8	36.5	C	32.9	35.8	33.6	35.2	C	C	33.0	34.0										
318-04	38.3	C	39.5	39.4	37.6	C	38.5	37.5	C	37.1	39.3	37.3													
318-10	34.5	38.0	35.1	34.1	C	33.2	C	36.1	C	C	34.2	C	C	C	32.3	33.0	C								
319-10	32.9	C	C	C	C	C	C	35.6	32.4	C	35.2	33.1	31.6	30.6	33.7	31.2									
327-04	35.7	C	37.9	C	35.0	34.7	C	D	C	37.8	C	36.0	35.4	D	33.0	35.5	C								
331-08	44.7	45.1	44.2	43.9	45.5																				
333-06	28.2	C	33.3	28.0	C	C	C	D	28.6	24.9	C	C	25.4	C	27.5	28.2	C	C	29.7						
336-08	40.0	D	41.8	41.7	C	38.5	40.6	C	C	C	39.0	38.1	39.3	41.0											
337-07	33.7	C	34.5	C	33.6	33.0	33.5	34.5	C	D	32.6	34.8	C	33.0	C										
358-09	32.7	35.5	C	32.3	32.6	33.1	29.4	C	C	C	33.2	C	D	32.8											
364-13	32.9	C	36.6	C	31.7	C	32.1	C	31.9	C	33.5	32.4	C	30.1	C	C									
378-10	36.0	D	D	C	37.9	37.0	C	36.0	37.5	C	36.4	C	33.8	35.8	33.7										
394-11	34.7	C	36.1	C	C	C	34.7	35.0	33.8	33.9	C	C	D	35.3	33.7	34.7									
395-15	34.2	35.6	34.7	34.5	34.4	33.5	34.6	32.0																	
396-16	32.4	33.1	33.6	C	C	33.6	30.0	C	C	C	31.9	30.7	33.4	C	C	33.0									
405-08	29.9	D	C	31.7	29.6	26.0	32.0	32.2	C	C	C	27.0	C	29.8	30.5	C									
434-10	37.5	D	C	37.3	C	39.1	C	38.9	C	C	C	36.5	39.0	36.5	35.4	37.1									
435-13	33.3	C	C	36.2	34.7	28.8	34.3	C	29.9	35.4	C	C	35.1	C	32.1	C									
437-08	33.4	33.2	C	C	C	C	32.5	C	35.1	C	32.4	32.7	33.1	C	C	32.9	35.3								
438-15	34.3	D	C	C	35.9	C	36.3	32.9	34.4	35.2	32.2	C	C	33.0	34.7	C	C								
448-04	30.7	30.0	C	C	C	32.6	C	28.7	28.0	C	C	30.4	C	30.2	C	31.1	C	C	34.3	D	C				
434-08	38.2	D	D	C	C	38.7	36.6	42.4	38.8	37.3	C	38.1	C	36.3	37.5	C									
627-11	29.2	C	C	C	C	29.7	26.2	C	C	C	29.7	28.2	29.7	C	27.8	32.1	30.3								
MEAN	34.4																								
S. D.	3.66																								
N	23																								

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

APPENDIX TT  
PAGE 21  
DAY 21

GROUP 1: 0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							

306-05	49.6	53.1	51.1	C	50.5	50.4	C	C	C	47.1	C	C	49.3	C	49.2	46.4								
311-13	46.2	C	46.0	C	D	46.9	C	C	50.1	46.0	C	44.8	45.6	C	44.9	45.5	C							
317-13	52.0	C	55.0	C	C	51.2	53.4	54.0	C	49.0	50.3	51.2	51.9											
321-10	56.2	D	48.9	C	56.1	57.9	55.0	58.4	56.6	56.2	54.3													
323-12	51.8	D	48.9	52.4	52.7	57.1	51.4	C	51.3	C	53.0	47.6	C											
345-05	52.8	D	D	53.7	52.9	58.0	C	54.1	52.5	50.6	C	C	48.3	52.1	C									
345-08	52.0	D	C	55.8	53.4	C	C	54.6	53.9	C	52.1	46.4	C	49.8	C	49.9								
348-13	50.7	53.2	C	53.3	C	54.8	C	44.6	50.0	C	55.2	C	47.8	46.4										
353-11	44.3	C	43.8	C	42.5	44.3	43.8	C	44.1	45.5	46.6	C	C	43.9	C	D								
355-13	48.7	D	54.0	49.3	51.1	42.7	C	C	44.7	46.9	C	C	52.7	C	48.2									
371-03	49.4	D	47.8	51.4	C	53.2	48.3	50.4	47.5	C	48.0	48.7	C											
380-09	53.7	C	C	C	53.2	C	55.6	53.8	C	C	54.7	C	54.3	53.1	53.7	51.4	C							
384-13	55.7	54.9	C	56.4	60.1	55.0	C	53.3	59.5	C	C	C	54.1	52.4										
388-13	52.8	50.1	57.8	C	C	C	D	56.0	C	C	C	C	55.3	52.9	C	47.4	49.8							
390-09	55.9	D	57.5	61.8	C	57.4	C	57.0	C	C	56.8	C	53.7	50.1	52.6	C								
400-10	52.8	C	C	63.9	61.8	61.7	60.5	60.8	58.5	58.4	49.1													
403-12	55.2	57.7	52.6	59.6	D	56.9	C	C	49.9	54.5	55.1	C	55.2	C										
408-12	52.0	D	D	C	C	54.9	43.8	55.3	C	52.6	C	52.7	53.6	52.3	51.0	C								
426-14	53.9	53.8	56.8	56.4	54.7	C	C	52.2	C	C	55.7	53.1	48.8											
427-14	51.6	D	54.8	55.2	53.4	48.6	C	D	48.2	D	C	50.3	49.5	C	C	52.8								
449-12	51.2	D	57.0	57.9	C	C	54.0	43.7	C	C	C	50.9	42.1	52.5	C	51.5								
628-07	47.5	52.4	46.7	54.9	C	58.7	55.3	3.0	C	C	57.7	C	C	51.1										
628-12	54.2	C	C	56.6	C	C	51.5	C	59.7	C	56.6	51.3	50.5	52.6	C	54.7	D							

MEAN 52.1  
S.D. 3.38  
N 24

D = DEAD PUP, C = CULLED PUP



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.  
APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

GROUP 2: 1.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
310-04	37.7	40.7	40.4	C	37.9	C	C	38.8	C	C	C	39.1	C	34.8	C	C	33.5	36.3						
312-08	46.8	D	45.1	48.3	49.4	46.1	D	45.9	C	C	C	C	45.5	47.3										
313-07	50.2	D	C	48.8	C	48.8	54.1	53.3	C	C	47.6	C	C	47.2	C	49.1	52.3							
314-12	59.9	D	C	54.7	C	C	61.3	C	C	53.7	65.1	C	63.9	58.7	61.1	60.8								
324-12	56.8	D	D	C	61.8	57.3	59.6	59.5	52.8	C	C	54.2	C	55.4	C	C	53.8							
329-11	53.2	D	C	55.5	54.3	C	56.5	C	52.4	51.9	53.3	C	C	C	C	52.4	49.0							
329-12	58.0	61.7	C	C	57.3	C	59.6	C	54.1	60.4	58.2	C	61.8	50.8			55.0	50.5	C	49.8				
354-10	53.2	C	C	C	59.2	53.4	C	53.9	49.7	C	C	C	54.2	C	C	56.5	C							
363-11	56.3	C	C	C	C	58.5	61.4	55.1	55.6	C	C	56.3	55.9	50.8	C	56.5	C							
377-09	51.7	50.2	C	C	C	56.1	49.4	C	50.9	54.3	55.5	53.8	43.7											
397-15	54.6	C	61.9	C	C	52.6	59.5	C	C	61.2	39.5	54.5	C	C	C	C	52.3	55.3	C					
406-04	49.8	D	52.0	53.1	48.1	52.2	47.8	C	50.5	46.5	C	48.5	C	C	C	C	C							
409-09	54.6	D	56.2	C	58.5	56.3	52.7	C	C	52.2	54.2	56.2	C	50.2										
411-10	43.2	19.7	49.0	C	50.2	C	D	50.0	49.6	48.9	43.6	C	C	34.4	C	D								
411-11	52.3	54.0	53.0	C	C	48.4	50.5	C	C	C	C	C	C	52.3	D	C	53.4	54.2						
419-14	49.3	48.4	C	C	49.4	C	C	52.4	49.6	48.9	C	47.3	47.9	C	C	C	50.6	C						
422-13	54.2	52.1	60.1	53.1	59.0	50.2	C	C	50.4	53.6	C	C	54.9	C	C	C	C							
423-12	42.6	C	C	C	42.8	42.5	44.0	41.1	C	47.5	39.9	42.0	40.8											
428-15	51.9	C	51.7	53.5	51.2	55.5	C	C	52.7	49.3	C	51.9	C	49.6	C	C	C							
429-12	82.8																							
429-14	51.2	C	56.0	52.1	C	53.5	C	C	53.0	D	52.1	C	C	50.4	45.9	46.9	C	C						
430-17	48.5	55.2	50.1	43.4	C	51.8	50.7	C	C	47.5	43.6	C	46.0	C	C	C	C							
431-11	53.3	57.2	47.6	49.7	53.4	C	C	C	C	55.8	C	C	C	C	55.2	52.7	C	55.1						
440-15	60.8	62.9	C	C	57.8	C	63.8	62.1	C	58.8	61.1	C	C	62.1	58.0	C	C	C						
447-17	50.2	C	51.4	49.1	C	C	C	49.1	C	54.1	C	49.0	49.2	52.4	C	47.0	C	C						
629-17	54.0	D	57.4	C	C	55.7	49.0	C	51.9	C	52.2	58.1	54.6	C	C	C	C	52.7						

MEAN 53.0  
S.D. 7.99  
N 26

D = DEAD PUP, C = CULLED PUP

SLI STUDY NO.: 3472.4 AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
CLIENT: NIPERA, INC. INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

APPENDIX TT

GROUP	3:	2.5	MG/KG/DAY	DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
304-11	54.6	56.8	58.7	53.7	56.2	53.5	D	55.1	C	C	C	C	C	C	C	C	C	49.5	53.6									
307-13	55.4	D	56.1	C	55.0	58.7	C	57.2	C	C	C	56.2	C	53.7	C	C	52.6	53.5										
338-10	54.1	D	C	57.6	56.1	56.1	53.1	D	54.5	50.6	C	C	52.8	C	52.3	D												
340-10	59.6	D	D	62.1	61.2	C	C	C	63.3	59.4	58.7	56.5	C	59.5	C	55.8	D	C										
342-05	48.5	51.7	C	49.7	50.7	52.1	44.7	47.3	C	C	44.2	47.7	C															
351-11	60.8	62.5	57.6	63.9	C	62.5	C	57.7	58.8	C	61.1	62.6	C															
351-12	55.2	D	35.7	C	C	58.2	58.6	C	C	C	60.1	C	56.4	55.7	58.5	C	C	58.7										
359-13	51.8	D	D	54.1	C	51.7	C	C	57.4	C	53.7	56.4	C	50.4	C	51.5	48.3	48.4	C	C								
367-08	53.8	55.6	53.5	54.2	C	C	C	57.4	C	56.6	C	50.1	C	60.7	C	D	49.8	59.9										
367-10	56.4	D	54.1	60.1	55.2	56.7	54.5	C	C	C	54.9	C	55.8	C	57.0	C	57.1											
368-10	56.9	C	56.6	59.0	55.9	58.8	C	C	54.9	C	55.8	C	57.0	C	57.1													
372-09	53.7	C	59.9	54.3	C	53.5	52.6	55.6	50.6	C	C	C	51.0	51.8														
373-08	46.7	48.9	44.9	44.0	C	48.0	47.0	C	C	C	48.0	47.1	C	45.7														
382-08	47.5	D	41.7	48.2	43.8	C	51.9	C	46.9	C	C	51.4	C	46.3	C	50.0	C											
382-09	57.3	C	60.5	56.2	C	57.1	58.1	55.7	C	52.5	57.8	60.1																
385-07	53.4	D	D	55.8	C	55.0	55.6	52.6	C	C	53.7	C	50.9	52.6	51.2													
404-07	44.3	C	43.3	43.0	C	C	45.2	45.5	C	43.3	C	45.8	42.8	45.2	C													
418-12	57.0	58.0	58.1	56.7	55.4	55.3	58.3																					
421-12	53.9	D	D	50.6	C	53.1	C	C	C	55.4	58.8	50.9	53.3	52.6	C	C	56.7	C										
432-12	58.4	C	62.8	59.5	54.6	59.3	C	C	57.1	C	58.5	58.9	C	56.2	C	C												
439-11	51.4	50.5	C	55.1	51.1	51.1	C	C	C	48.2	D	C	49.5	C	C	53.4	52.0											
444-16	58.4	C	60.6	58.1	56.8	C	C	59.5	C	57.2	56.4	57.2	61.5	C	C													
445-13	57.4	C	57.0	58.4	C	58.6	C	56.6	54.4	52.8	D	C	59.4	C	62.2	C												
625-08	48.9	56.8	C	46.8	46.5	C	49.1	C	48.0	50.1	51.2	C	43.0	C														

MEAN 54.0  
S.D. 4.29  
N 24

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICOTINE SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 4: 5.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
303-07	53.9	51.2	60.9	48.5	C	59.0	C	49.8	C	54.4	58.6	C	48.4											
326-09	50.3	D	52.9	50.5	49.1	51.3	51.0	C	48.6	C	C	C	C	C	50.1	48.9								
328-08	58.4	D	61.7	57.7	61.1	60.5	C	55.7	C	C	C	C	C	57.4	54.0	58.8								
330-01	53.5	C	53.0	C	60.0	52.6	54.0	C	56.9	53.6	53.1	44.8	C											
344-09	53.3	57.3	54.4	52.5	51.0	D	52.4	C	56.2	C	C	52.2	C											
346-15	59.7	C	60.5	C	C	62.3	C	C	59.2	60.5	C	55.8	55.9	C	58.1	63.2	C	C						
350-11	56.9	59.5	C	57.7	C	57.2	55.9	C	58.0	C	C	53.4	48.8	52.3	C	54.6	53.5	C						
360-08	53.4	C	C	C	55.3	C	50.6	58.8	C	C	C	56.7	53.4	48.8	C	55.9								
361-13	54.9	D	55.7	C	55.4	55.7	57.8	C	C	C	C	54.9	60.4	55.5										
365-09	58.5	58.6	60.6	56.7	C	59.4	C	61.8	C	C	C	51.1	C	54.2	54.1	C	C	C	49.7					
374-09	53.7	C	56.9	55.8	54.8	52.8	C	C	C	C	C	55.4	58.6	C	54.3	58.9								
375-12	59.5	D	63.9	C	60.3	66.2	C	C	58.4	C	51.7	C	56.0	55.1	56.5									
381-11	56.8	59.1	55.1	C	59.4	61.1	C	C	C	C	C	51.2	61.3											
393-14	55.4	54.3	C	57.4	51.1	C	56.1	C	C	C	52.5	59.8	C	58.4	C	53.5	C							
398-10	57.7	D	58.2	C	56.0	C	61.4	62.3	C	57.5	54.1	C	56.6	55.1										
402-10	50.4	52.2	52.8	C	52.7	47.9	C	50.7	48.6	51.5	47.1													
416-08	56.3	55.2	60.4	C	59.0	58.0	C	56.8	48.7	C	51.2	61.3												
416-09	52.7	C	54.7	C	54.3	C	C	C	C	C	55.5	48.8	C	55.1	51.1	52.0	49.9							
417-13	54.3	C	54.4	58.3	49.1	C	C	57.1	55.2	54.9	C	54.4	51.0	C										
436-08	54.0	53.7	58.2	C	C	57.3	C	57.2	49.8	53.6	54.0	C	C	C	47.9									
436-12	56.5	C	58.3	59.2	C	55.0	C	C	C	C	57.2	C	57.5	C	54.9	50.0	C							
443-12	51.8	D	C	50.4	54.4	C	55.8	52.1	C	C	C	56.9	50.5	49.5	C	44.9								
451-16	55.8	D	C	C	C	57.8	59.2	57.9	C	58.3	52.4	C	56.1	C	51.9	52.7	C							
MEAN	55.1																							
S. D.	2.66																							
N	23																							

D = DEAD PUP, C = CULLED PUP

APPENDIX TT  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP WEIGHTS DURING LACTATION (GRAMS)

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

GROUP 5: 10.0 MG/KG/DAY

DAM NO.	PUP NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	MEAN																							
308-14	52.3	D	D	D	54.2	54.4	C	49.2	55.1	51.0	53.6	C	C	49.4	51.3									
318-04	57.4	C	60.1	56.9	56.5	C	56.4	58.5	C	55.3	58.7	56.9												
318-10	52.1	C	59.9	54.9	49.7	C	51.1	C	54.3	C	51.0	C	C	C	50.2	46.0	C							
319-10	53.4	C	C	C	C	C	C	57.2	51.3	C	56.2	54.7	52.1	49.5	55.1	50.7								
327-04	56.6	C	61.0	C	56.4	51.7	C	D	C	60.7	C	57.1	56.0	D	54.4	55.2	C							
331-08	66.7		67.5	65.5	65.9	67.8																		
333-06	43.3	C	47.8	43.4	C	C	C	D	44.7	39.1	C	C	39.5	C	42.7	43.2	C	C	46.3					
336-08	59.9	D	62.7	63.2	C	57.6	61.1	C	C	56.2	56.3	60.9	61.1											
337-07	50.7	C	52.7	C	48.6	50.5	49.1	54.2	C	D	48.6	52.4	C	49.1	C									
358-09	47.6	C	51.9	C	46.4	47.6	47.5	44.2	C	C	48.1	C	D	47.3										
364-13	50.4	C	54.2	C	55.8	C	48.8	C	49.1	C	48.1	C	50.8	48.9	C	47.1	C	C	C					
378-10	56.2	D	D	C	59.0	59.5	C	55.4	59.6	C	56.2	C	53.5	57.1	49.6									
394-11	55.8	C	59.7	C	C	C	56.4	56.5	54.9	53.2	C	C	D	58.1	54.9	52.8								
395-15	56.9		62.0	58.2	57.4	59.7	54.7	54.6	51.4															
396-16	52.3	C	54.2	53.8	C	54.1	46.5	C	C	52.3	49.1	53.7	C	C	54.6									
405-08	50.3	D	C	53.3	51.1	45.8	54.4	53.0	C	C	C	46.0	C	50.4	48.6	C								
434-10	59.0	D	C	59.5	C	60.5	C	58.0	C	C	58.7	62.5	58.9	55.5	58.1									
435-13	50.7	C	C	53.2	52.8	45.1	51.1	C	48.9	53.3	C	52.1	C	49.0	C									
437-08	54.0	C	57.3	C	C	C	51.5	C	57.8	C	52.8	51.1	52.6	C	52.6	56.4								
438-15	51.7	D	C	C	56.3	C	54.2	47.8	49.1	54.3	47.9	C	C	51.2	52.5	C								
448-04	50.3	C	C	C	C	51.4	C	48.3	49.2	C	48.7	C	50.3	C	48.7	C								
434-08	61.6	D	D	C	62.9	59.8	67.1	63.6	61.5	C	60.1	C	55.7	62.2	C									
627-11	48.3	C	C	C	C	49.7	42.3	C	C	48.8	47.7	48.7	C	45.9	54.0	49.6								
	MEAN																							
	S. D.																							
	N																							

D = DEAD PUP, C = CULLED PUP

(1157)

SLI Study No. 3472.4

## APPENDIX UU

Individual F2 Pup Gross Necropsy Observations

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

PAGE 1

GRADE

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/15/99	STUDY DAY	6	GRADE
3111304	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/15/99	STUDY DAY	6	P
		STOMACH		GROSS: MILK PRESENT				P
		TRACHEA		GROSS: CONTENT ABNORMAL				
		GENERAL COMMENT		WHITE FOAM				
		MAJOR VESSELS		GROSS: TOO AUTOLYZED TO EXAMINE				P
				INVOLVING BRAIN				
				GROSS: PATENT DUCTUS ARTERIOSUS				P
				PORTIONS OF LUNGS DARK RED				
3450501	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/11/99	STUDY DAY	2	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		ALL LOBES				
				GROSS: MILK NOT PRESENT				P
3710301	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/11/99	STUDY DAY	2	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		ALL LOBES				
				GROSS: MILK NOT PRESENT				P
3900901	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/10/99	STUDY DAY	1	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		ALL LOBES				
				GROSS: MILK NOT PRESENT				P
4031204	GROUP:	0 MG/KG/DAY	MALE a	FOUND DEAD	9/15/99	STUDY DAY	6	P
		EYES		GROSS: HEMORRHAGIC RING				
		GENERAL COMMENT		AROUND IRIS, LEFT EYE				
				GROSS: TOO AUTOLYZED TO EXAMINE				P
				INVOLVING STOMACH, INTESTINES, URETERS AND REPRODUCTIVE				
				TISSUES				

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS. GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

PAGE 2

GRADE

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/13/99	STUDY DAY	4	GRADE
4081201	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/13/99	STUDY DAY	4	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		GROSS: MILK NOT PRESENT				P
4081202	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/13/99	STUDY DAY	4	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		GROSS: MILK NOT PRESENT				P
4271401	GROUP:	0 MG/KG/DAY	MALE	FOUND DEAD	9/11/99	STUDY DAY	2	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		GROSS: MILK NOT PRESENT				P
		URETERS		GROSS: DISTENDED				P
				GROSS: RIGHT				I
3241201	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD	9/13/99	STUDY DAY	4	P
		STOMACH		GROSS: MILK NOT PRESENT				
3241202	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD	9/13/99	STUDY DAY	4	P
		LUNGS		GROSS: ATELECTASIS				
		STOMACH		GROSS: MILK NOT PRESENT				P
4111006	GROUP:	1.0 MG/KG/DAY	MALE <sup>a</sup>	FOUND DEAD	9/14/99	STUDY DAY	5	P
		GENERAL COMMENT		GROSS: TOO AUTOLYZED TO EXAMINE				
				INVOLVING LIVER, STOMACH, INTESTINES, SPLEEN AND URINARY/ REPRODUCTIVE TISSUES				
4291409	GROUP:	1.0 MG/KG/DAY	MALE	FOUND DEAD	9/14/99	STUDY DAY	5	P
		STOMACH		GROSS: MILK PRESENT				

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS. GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

PAGE 3

GRADE

FOUND DEAD		STUDY DAY	GRADE
ANIMAL NO. 6291701	GROUP: 1.0 MG/KG/DAY LUNGS	9/13/99	4
	GROSS: ATELECTASIS ALL LOBES		P
	GROSS: MILK NOT PRESENT		P
ANIMAL NO. 3071301	GROUP: 2.5 MG/KG/DAY LUNGS	9/11/99	2
	GROSS: ATELECTASIS ALL LOBES		P
	GROSS: MILK NOT PRESENT		P
ANIMAL NO. 3381007	GROUP: 2.5 MG/KG/DAY STOMACH	9/14/99	5
	GROSS: MILK NOT PRESENT		P
ANIMAL NO. 3401002	GROUP: 2.5 MG/KG/DAY GENERAL COMMENT	9/14/99	5
	MALE a	STUDY DAY	
	GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING STOMACH, INTESTINES, SPLEEN AND URINARY/ REPRODUCTIVE TISSUES		P
	DIAPHRAGM		P
	GROSS: HERNIA RIGHT PORTION, LARGE PORTION OF LIVER AND SMALL INTESTINES EXTEND INTO THORACIC CAVITY		
ANIMAL NO. 3591301	GROUP: 2.5 MG/KG/DAY LUNGS	9/13/99	4
	GROSS: ATELECTASIS ALL LOBES		P
	GROSS: MILK NOT PRESENT		P
ANIMAL NO. 3591302	GROUP: 2.5 MG/KG/DAY LUNGS	9/13/99	4
	GROSS: ATELECTASIS ALL LOBES		P
	GROSS: MILK NOT PRESENT		P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

ANIMAL NO.	GROUP:	MG/KG/DAY	SEX	FOUND DEAD	STUDY DAY	GRADE
3850701	2.5	LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/13/99 4	P
		STOMACH		GROSS: MILK NOT PRESENT		P
3260901	5.0	LUNGS	MALE a	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/10/99 1	P
		GENERAL COMMENT		GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES		P
3280801	5.0	HEART	MALE	FOUND DEAD GROSS: BULBOUS AORTIC ARCH STENOTIC PULMONARY TRUNK	9/11/99 2	P
		LUNGS		GROSS: ATELECTASIS ALL LOBES		P
		STOMACH EXT. APPEARANCE		GROSS: MILK NOT PRESENT GROSS: EDEMA		P
		GENERAL COMMENT		ENTIRE BODY SEXING ERROR SEX CONFIRMED INTERNALLY AS FEMALE AT NECROPSY		P
3440905	5.0	LUNGS	MALE a	FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	9/11/99 2	P
		GENERAL COMMENT				
4431201	5.0	LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/12/99 3	P
		STOMACH		GROSS: MILK NOT PRESENT		P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS. GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

ANIMAL NO.	GROUP	MG/KG/DAY	SEX	FOUND DEAD	STUDY DAY	GRADE
4511601	5.0	LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/13/99	4
		STOMACH URETERS		GROSS: MILK NOT PRESENT GROSS: DISTENDED BILATERAL		
3081401	10.0	KIDNEYS	MALE	FOUND DEAD GROSS: RENAL PAPILLA(E) INCOMPLETELY DEVELOPED LEFT	9/10/99	1
		LUNGS		GROSS: ATELECTASIS ALL LOBES		
		STOMACH URETERS		GROSS: MILK NOT PRESENT GROSS: DISTENDED BILATERAL		
3330607	10.0	STOMACH GENERAL COMMENT	MALE	FOUND DEAD GROSS: MILK PRESENT GROSS: TOO AUTOLYZED TO EXAMINE INTESTINES	9/14/99	5
3781001	10.0	LUNGS	MALE	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/13/99	4
		STOMACH		GROSS: MILK NOT PRESENT		
4050801	10.0	STOMACH GENERAL COMMENT	MALE	FOUND DEAD GROSS: MILK NOT PRESENT GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING BRAIN	9/15/99	6

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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		FOUND DEAD		GRADE						
ANIMAL NO.	4341001	GROUP:	10.0 MG/KG/DAY LUNGS	MALE	9/11/99	STUDY DAY	2			
			GROSS:	ATELECTASIS ALL LOBES					P	
			GROSS:	MILK NOT PRESENT					P	
			GROSS:	DISTENDED RIGHT					1	
ANIMAL NO.	4381501	GROUP:	10.0 MG/KG/DAY LUNGS	MALE a	9/11/99	STUDY DAY	2			
			GROSS:	ATELECTASIS ALL LOBES					P	
		GENERAL COMMENT	GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES							P
ANIMAL NO.	4340801	GROUP:	10.0 MG/KG/DAY LUNGS	MALE	9/11/99	STUDY DAY	2			
			GROSS:	ATELECTASIS ALL LOBES					P	
		GENERAL COMMENT	GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES							P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	0 MG/KG/DAY LUNGS	FOUND DEAD OR UNSCHEDULED EUTHANASIA	9/13/99 STUDY DAY	4	GRADE
3231201	GROUP:	0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/13/99 STUDY DAY	4	P
3450502	GROUP:	0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/11/99 STUDY DAY	2	P
3450801	GROUP:	0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/10/99 STUDY DAY	1	P
4271407	GROUP:	0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/13/99 STUDY DAY	4	P
4491201	GROUP:	0 MG/KG/DAY STOMACH	FOUND DEAD GROSS: MILK NOT PRESENT	9/10/99 STUDY DAY	1	P
3120806	GROUP:	1.0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: NO SIGNIFICANT CHANGES OBSERVED	9/24/99 STUDY DAY	15	P
3141201	GROUP:	1.0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/12/99 STUDY DAY	3	P
3291101	GROUP:	1.0 MG/KG/DAY LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	9/12/99 STUDY DAY	3	P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
 CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
 INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	DOSE:	SEX:	STUDY DAY	FOUND DEAD OR UNSCHEDULED EUTHANASIA	GRADE
3291101	(CONTINUED)				GROSS: MILK NOT PRESENT GROSS: DISTENDED BILATERAL	P 1
4060401	1.0 MG/KG/DAY	FEMALE	9/12/99	3	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P P
4090901	1.0 MG/KG/DAY	FEMALE	9/10/99	1	FOUND DEAD GROSS: MILK NOT PRESENT	P
4111114	1.0 MG/KG/DAY	FEMALE <sup>a</sup>	9/15/99	6	FOUND DEAD GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	P
3041106	2.5 MG/KG/DAY	FEMALE	9/14/99	5	FOUND DEAD GROSS: MILK PRESENT GROSS: TOO AUTOLYZED TO EXAMINE INTESTINES	P P
3381001	2.5 MG/KG/DAY	FEMALE	9/13/99	4	UNSCHEDULED EUTHANASIA GROSS: MILK NOT PRESENT GROSS: CANNIBALIZED MISSING RIGHT FORELIMB AND OPEN LESION ON RIGHT LATERAL THORAX	P P
3511201	2.5 MG/KG/DAY	FEMALE	9/11/99	2	FOUND DEAD GROSS: ATELECTASIS ALL LOBES GROSS: MILK NOT PRESENT	P P

<sup>a</sup> SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
 GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

APPENDIX UU  
AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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FOUND DEAD OR UNSCHEDULED EUTHANASIA				GRADE
ANIMAL NO. 3561401	GROUP: 2.5 MG/KG/DAY	FEMALE	FOUND DEAD GROSS: PALE ALL LOBES	P
	LIVER			
			GROSS: MILK NOT PRESENT	P
			GROSS: DISTENDED	1
			BILATERAL	
			GROSS: M S SHAPEN	P
			PUP APPEARS ELONGATED; FOREPAWS AND HINDQUARTERS AUTOLYZED	
			GROSS: EDEMA	P
			SUBCUTANEOUS TISSUES OF HEAD AND NECK, FORELIMBS AND HINDQUARTERS	
			GROSS: a	
ANIMAL NO. 3591303	GROUP: 2.5 MG/KG/DAY	FEMALE	FOUND DEAD GROSS: ATELECTASIS	P
	LUNGS			
			ALL LOBES	
			GROSS: MILK NOT PRESENT	P
			GROSS: DISTENDED	1
			LEFT	
ANIMAL NO. 3671001	GROUP: 2.5 MG/KG/DAY	FEMALE	FOUND DEAD GROSS: PALE ALL LOBES	P
	LIVER			
			GROSS: MILK PRESENT	P
ANIMAL NO. 3850702	GROUP: 2.5 MG/KG/DAY	FEMALE	FOUND DEAD GROSS: ATELECTASIS	P
	LUNGS			
			ALL LOBES	
			GROSS: MILK NOT PRESENT	P
ANIMAL NO. 4211201	GROUP: 2.5 MG/KG/DAY	FEMALE	FOUND DEAD GROSS: ATELECTASIS	P
	LUNGS			
			ALL LOBES	
			GROSS: MILK NOT PRESENT	P
	STOMACH			

a DESCRIPTION OF REMARKABLE OBSERVATION WAS NOT DOCUMENTED AT NECROPSY. GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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		FOUND DEAD OR UNSCHEDULED EUTHANASIA		GRADE
ANIMAL NO.	4211202	GROUP: 2.5 MG/KG/DAY LUNGS	FEMALE FOUND DEAD 9/13/99 STUDY DAY 4 GROSS: ATELECTASIS ALL LOBES	P
ANIMAL NO.	4391110	GROUP: 2.5 MG/KG/DAY STOMACH	FEMALE FOUND DEAD 9/14/99 STUDY DAY 5 GROSS: MILK PRESENT	P
ANIMAL NO.	3401017	GROUP: 2.5 MG/KG/DAY GENERAL COMMENT	FEMALE a FOUND DEAD 9/15/99 STUDY DAY 6 GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING BRAIN, STOMACH, INTESTINES, SPLEEN, URETERS AND REPRODUCTIVE TISSUES	P
ANIMAL NO.	3981001	GROUP: 5.0 MG/KG/DAY LUNGS	FEMALE FOUND DEAD 9/13/99 STUDY DAY 4 GROSS: ATELECTASIS ALL LOBES	P
ANIMAL NO.	3081402	GROUP: 10.0 MG/KG/DAY LUNGS	FEMALE FOUND DEAD 9/10/99 STUDY DAY 1 GROSS: ATELECTASIS ALL LOBES	P
ANIMAL NO.	3081403	GROUP: 10.0 MG/KG/DAY STOMACH	FEMALE FOUND DEAD 9/10/99 STUDY DAY 1 GROSS: NO SIGNIFICANT CHANGES OBSERVED	P
ANIMAL NO.	3360801	GROUP: 10.0 MG/KG/DAY EYES	FEMALE FOUND DEAD 9/11/99 STUDY DAY 2 GROSS: MICROPHthalmia RIGHT	P
ANIMAL NO.	3360801	GROUP: 10.0 MG/KG/DAY LUNGS	FEMALE FOUND DEAD 9/11/99 STUDY DAY 2 GROSS: ATELECTASIS ALL LOBES	P
ANIMAL NO.	3360801	GROUP: 10.0 MG/KG/DAY STOMACH	FEMALE FOUND DEAD 9/11/99 STUDY DAY 2 GROSS: MILK NOT PRESENT	P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS.  
b THE PRESENCE OR ABSENCE OF MILK WAS NOT DOCUMENTED AT NECROPSY.

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP:	MG/KG/DAY	SEX	FOUND DEAD OR UNSCHEDULED EUTHANASIA	GRADE
3360801	(CONTINUED)		URETERS	GROSS: DISTENDED LEFT, MODERATE; RIGHT, SLIGHT	P
3370709	10.0	MG/KG/DAY	FEMALE a	FOUND DEAD 9/15/99 STUDY DAY 6 GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING ABDOMINAL AND URINARY/REPRODUCTIVE TISSUES	P
3580912	10.0	MG/KG/DAY	FEMALE	FOUND DEAD 9/16/99 STUDY DAY 7 GROSS: DARK RED MAJOR PORTION OF ALL LOBES	P
			TRACHEA	GROSS: CONTENT ABNORMAL ENTIRE LENGTH, RED FLUID	P
3781002	10.0	MG/KG/DAY	FEMALE	FOUND DEAD 9/13/99 STUDY DAY 4 GROSS: ATELECTASIS ALL LOBES	P
			STOMACH	GROSS: MILK NOT PRESENT	P
3941112	10.0	MG/KG/DAY	FEMALE	FOUND DEAD 9/12/99 STUDY DAY 3 GROSS: PALE ALL LOBES	P
			STOMACH	GROSS: MILK PRESENT	P
			GENERAL COMMENT	GROSS: APPARENT ACCIDENTAL INJURY HEAD SEVERELY DAMAGED; UNABLE TO EXAMINE STRUCTURES	P
4411001	10.0	MG/KG/DAY	FEMALE	FOUND DEAD 9/15/99 STUDY DAY 6 GROSS: MILK PRESENT	P
			STOMACH		
4340802	10.0	MG/KG/DAY	FEMALE	FOUND DEAD 9/11/99 STUDY DAY 2 GROSS: ATELECTASIS ALL LOBES	P
			STOMACH	GROSS: MILK NOT PRESENT	P

a SEX OF PUP COULD NOT BE VERIFIED AT NECROPSY DUE TO AUTOLYSIS. GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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ANIMAL NO.	GROUP	DOSE	SEX	FOUND DEAD OR UNSCHEDULED EUTHANASIA	FOUND DEAD	STUDY DAY	GRADE
4340803	10.0 MG/KG/DAY	10.0	FEMALE	LUNGS	FOUND DEAD GROSS: ATELECTASIS ALL LOBES	2	P
				STOMACH	GROSS: MILK NOT PRESENT		P
				GENERAL COMMENT	GROSS: TOO AUTOLYZED TO EXAMINE INVOLVING INTESTINES, SPLEEN AND URETERS		P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3060501	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3060502	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3060504	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3060505	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3111302	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3111305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3111308	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3111309	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3171302	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3171305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3171306	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	3171307	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211001	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211003	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211004	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211005	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211006	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211007	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211008	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231202	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231203	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231204	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3450503	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450504	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450505	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450507	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450803	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450804	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450807	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3450808	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3481301	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3481303	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3481305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
3481307	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3531102	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3531104	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3531105	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3531106	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3551302	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3551303	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3551304	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3551305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3710302	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3710303	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3710305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3710306	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800904	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800906	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800907	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800910	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3841301	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3841303	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3841304	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3841305	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3881301	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
3881302	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3881307	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3900902	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3900903	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3900905	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3901102	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/15/99	STUDY DAY	36
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3901103	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/15/99	STUDY DAY	36
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3901104	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/15/99	STUDY DAY	36
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3901105	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/15/99	STUDY DAY	36
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4001003	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4001004	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
4001005	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4001007	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4031201	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4031202	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4031203	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4031205	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4081205	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4081206	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4081207	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4081209	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4261401	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	GRADE
4261402	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4261403	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4261404	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4271402	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4271403	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4271404	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4271405	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4491202	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4491203	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4491206	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4491207	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
6280701	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
6280702	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
6280703	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
6280705	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
6281203	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22
6281206	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
6281208	GROUP:	0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22
6281210	GROUP:	0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
3100401	GROUP:	1.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3100402	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
3100404	GROUP:	1.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3100407	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3120802	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3120803	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3120804	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3120805	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3130703	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 5/99	STUDY DAY	26
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3130705	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 5/99	STUDY DAY	26
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3130706	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 5/99	STUDY DAY	26
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3130707	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 5/99	STUDY DAY	26
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3141203	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3141206	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3141209	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3141210	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3241204	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3241205	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3241206	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3241207	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3291103	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3291106	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3291108	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3291104	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3291201	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 3291204	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3291206	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3291208	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3541003	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3541004	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3541006	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3541007	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3631105	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3631106	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3631107	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3631108	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
3770901	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3770905	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3770906	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3770911	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
			URINARY BLADDER	GROSS: CONTENT ABNORMAL			
				LIGHT RED FLUID			
3971502	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971505	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971506	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971509	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060402	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060403	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
4060404	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060405	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4090902	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4090904	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4090905	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4090906	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22		
			GROSS: SEXING ERROR PUP IS A FEMALE		P	
4111001	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4111002	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4111004	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4111007	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
			GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO. 4111101	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99	STUDY DAY 21
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4111102	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99	STUDY DAY 21
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4111105	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99	STUDY DAY 21
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4111106	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99	STUDY DAY 21
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4191401	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4191404	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4191407	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4191408	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4221301	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4221302	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4221303	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
4221304	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	23	NO SIGNIFICANT CHANGES OBSERVED
4231204	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	22	NO SIGNIFICANT CHANGES OBSERVED
4231205	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	22	NO SIGNIFICANT CHANGES OBSERVED
4231206	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	22	NO SIGNIFICANT CHANGES OBSERVED
4231207	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	22	NO SIGNIFICANT CHANGES OBSERVED
4281502	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	24	NO SIGNIFICANT CHANGES OBSERVED
4281503	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	24	NO SIGNIFICANT CHANGES OBSERVED
4281504	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	24	NO SIGNIFICANT CHANGES OBSERVED
4281505	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	24	NO SIGNIFICANT CHANGES OBSERVED
4291201	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	25	NO SIGNIFICANT CHANGES OBSERVED
4291402	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	23	NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4291403	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4291405	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4291408	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301701	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301702	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301703	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301705	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311101	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311102	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311103	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311104	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
4401501	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401504	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401506	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401507	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4471702	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/12/99	STUDY DAY	33
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4471703	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/12/99	STUDY DAY	33
				GROSS: MALFORMED			
				POSTERIOR PORTION OF CAUDATE LOBE IS BIFURCATED			
4471707	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/12/99	STUDY DAY	33
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4471709	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/12/99	STUDY DAY	33
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6291702	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6291705	GROUP:	1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

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GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 6291706	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 6291717	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3241213	GROUP: 1.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041101	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041102	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041103	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041104	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3071302	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3071304	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3071305	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3071307	GROUP: 2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
3381003	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381004	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381005	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381006	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401003	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401004	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401009	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401010	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3420501	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3420503	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3420504	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3420505	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511101	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511102	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511103	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511105	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511205	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511206	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3511210	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3591304	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3591306	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: CONTENT ABNORMAL WHITE FOAM							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99 STUDY DAY	24
3591309	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3591310	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3670801	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3670802	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3670803	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3670807	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3671002	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3671003	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3671004	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3671005	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: CONSOLIDATED ALL LOBES, WITH WHITE FOAM AND RED FLUID		
	TRACHEA			GROSS: CONTENT ABNORMAL ENTIRE LENGTH, WHITE FOAM		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3681002	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681003	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681004	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681005	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720902	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720903	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720905	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720906	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730801	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730802	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730803	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 3820802 GROUP: 2.5 MG/KG/DAY EXT. APPEARANCE MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: TAIL ABSENT P

ANIMAL NO. 3820803 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820804 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820806 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820902 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820903 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820905 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820906 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3820907 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3850703 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

ANIMAL NO. 3850705 GROUP: 2.5 MG/KG/DAY MALE SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25  
GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	3850706	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3850707	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4040702	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4040703	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4040706	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4040707	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4181201	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4181202	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4181203	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4181204	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	4181205	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICHEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24	GRADE
4211203	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4211205	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4211209	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4211210	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4321202	GROUP:	2.5 MG/KG/DAY LUNGS TRACHEA	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: CONSOLIDATED ALL LOBES, WITH WHITE FOAM GROSS: CONTENT ABNORMAL ENTIRE LENGTH, WHITE FOAM	P P
4321203	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4321204	GROUP:	2.5 MG/KG/DAY TRACHEA	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: CONTENT ABNORMAL ENTIRE LENGTH, WHITE FOAM	P
4321205	GROUP:	2.5 MG/KG/DAY LUNGS TRACHEA	MALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: CONSOLIDATED ALL LOBES, WITH WHITE FOAM GROSS: CONTENT ABNORMAL PORTION ANTERIOR TO BRONCHI, WITH WHITE FOAM	P P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY	24
4391101	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391103	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391104	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391105	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441602	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441603	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441604	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441607	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4451302	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4451303	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4451305	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
ANIMAL NO. 4451307	GROUP:	2.5 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 6250801	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 6250803	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 6250804	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
		KIDNEYS		GROSS: DILATED PELVIS RIGHT			
ANIMAL NO. 6250806	GROUP:	2.5 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 3030701	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 3030702	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 3030703	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 3260902	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
ANIMAL NO. 3260903	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

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GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
3260904	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22
3260905	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22
3280802	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3280803	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3280804	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3300102	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3300104	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3300105	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3300106	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3440901	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22
3440902	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
ANIMAL NO. 3440903	GROUP:	5.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3440904	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3461502	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3461505	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3461508	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3461509	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3501101	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3501103	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3501105	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3501106	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
ANIMAL NO. 3600804	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 9/99	STUDY DAY	30
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 9/99	STUDY DAY	30
3600806	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 9/99	STUDY DAY	30
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3600807	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 9/99	STUDY DAY	30
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3600810	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 9/99	STUDY DAY	30
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3611302	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3611304	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3611305	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3611306	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3650901	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3650902	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3650903	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3650907	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3740902	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3740903	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3740904	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3740905	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751202	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751204	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751205	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751208	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811101	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811102	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811104	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
3811105	GROUP:	5.0 MG/KG/DAY	MALE	NO SIGNIFICANT CHANGES OBSERVED	
3931401	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				NO SIGNIFICANT CHANGES OBSERVED	
3931403	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				NO SIGNIFICANT CHANGES OBSERVED	
3931404	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				NO SIGNIFICANT CHANGES OBSERVED	
3931406	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				NO SIGNIFICANT CHANGES OBSERVED	
3981002	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	
3981004	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	
3981006	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	
3981007	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	
4021001	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	
4021002	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
				NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 4021004	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4021005	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160801	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160802	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160804	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160805	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160902	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/14/99	STUDY DAY 35
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160904	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/14/99	STUDY DAY 35
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160909	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/14/99	STUDY DAY 35
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4160910	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/14/99	STUDY DAY 35
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4171302	GROUP: 5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99 STUDY DAY	23
4171303	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4171304	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99 STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4171307	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99 STUDY DAY	23
				GROSS: DILATED PELVIS RIGHT		1
4360801	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4360802	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4360805	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4360807	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99 STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4361201	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4361203	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4361204	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99 STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
4361206	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4431203	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4431204	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4431206	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4431207	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4511606	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4511607	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4511608	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4511610	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4160913	GROUP:	5.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/14/99	STUDY DAY	35
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3081404	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
3081405	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3081407	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3081408	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180402	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180403	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180404	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180406	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180407	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181001	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181002	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181003	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3181005	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3191007	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3191010	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: DILATED PELVIS RIGHT							
3191011	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3270402	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3270404	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3270405	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3270409	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3310801	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3310802	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 3310803	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3310804	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3330602	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3330603	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3330608	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3330609	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3360802	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3360803	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3360805	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3360806	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3370702	GROUP: 10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	3370704	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3370705	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3370706	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3580901	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3580903	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3580904	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3580905	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3641301	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3641304	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3641306	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3641308	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3781004	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3781005	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3781007	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3781008	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3941102	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3941106	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3941107	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3941108	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3951501	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3951502	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3951503	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3951504	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3951505	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3951506	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961601	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961602	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961605	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961606	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050803	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050804	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050805	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050806	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4341003	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341005	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341007	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341011	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341012	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4351303	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4351304	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4351305	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4351306	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4370801	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4370806	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
4370808	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4370810	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4381504	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4381506	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4381507	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4381508	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480401	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480405	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480407	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480408	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340805	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4340806	GROUP:	10.0 MG/KG/DAY	MALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340807	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340808	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271105	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271106	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271110	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271111	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271112	GROUP:	10.0 MG/KG/DAY	MALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
3060509	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3060512	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3060514	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3060515	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3111311	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3111312	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3111314	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3111315	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3171309	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3171310	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3171311	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	3171312	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3211009	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231205	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231206	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231208	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231210	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3231211	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3450508	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3450509	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3450513	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3450514	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

(1216)



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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GRADE

SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
3450810	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3450811	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3450813	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3450815	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3481308	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3481310	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3481312	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3481313	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3531108	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3531109	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	
3531110	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT	CHANGES	OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3531114	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3551309	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3551310	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3551313	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3551316	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3710307	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3710308	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3710310	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3710311	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800912	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3800913	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO. 3800914	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3800915	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3841307	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3841308	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3841312	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3841313	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3881311	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3881312	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3881314	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3881315	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3900910	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO. 3900913	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3900914	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3900915	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3901106	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/15/99 STUDY DAY 36 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3901107	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/15/99 STUDY DAY 36 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3901108	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/15/99 STUDY DAY 36 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 3901109	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/15/99 STUDY DAY 36 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4001008	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4001014	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4001015	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4001017	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4031208	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4031209	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4031210	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4031212	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4081211	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4081212	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4081213	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4081214	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4261407	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4261410	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4261411	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO. 4261412	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4271408	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4271411	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4271412	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4271415	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4491211	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4491212	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4491213	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4491215	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 6280706	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 6280707	GROUP: 0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
6280710	GROUP:	0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
6280714	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
6281211	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
6281212	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
6281213	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
6281215	GROUP:	0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3100411	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3100413	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3100416	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3100417	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3120807	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 3120812	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3120813	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3130710	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 5/99	STUDY DAY 26
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3130713	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 5/99	STUDY DAY 26
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3130715	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 5/99	STUDY DAY 26
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3130716	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 5/99	STUDY DAY 26
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3141212	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3141213	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3141214	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3141215	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3241208	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25	GRADE
3241211	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3241217	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291109	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291110	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291115	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291116	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291209	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291210	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED				
3291212	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22	
		KIDNEYS		GROSS: DILATED PELVIS				P
		URETERS		GROSS: DISTENDED				1
				BILATERAL; RIGHT, MODERATE; LEFT, SLIGHT				
				BILATERAL				
3291213	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22	
		KIDNEYS		GROSS: DILATED PELVIS				1
				RIGHT				

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	3291213	(CONTINUED)	URETERS	GROSS: DISTENDED RIGHT
ANIMAL NO.	3541012	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3541015	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3541016	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3541018	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3631111	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3631112	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3631113	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3631115	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99 STUDY DAY 24 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3770908	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO.	3770909	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99 STUDY DAY 25 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
3770910	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3770912	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971510	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971511	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971516	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3971517	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060406	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060408	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060409	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4060411	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4090910	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO. 4090911	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4090912	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4090914	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111008	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111009	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111010	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111013	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111113	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111116	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4111117	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 9/30/99 STUDY DAY 21 GROSS: NO SIGNIFICANT CHANGES OBSERVED
ANIMAL NO. 4191409	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4191411	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4191412	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4191416	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4221305	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4221308	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4221309	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4221313	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4231209	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4231210	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4231211	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4231212	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
4281508	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4281509	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4281511	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4281513	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4291410	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
		DIAPHRAGM		GROSS: THIN AREA			
				TENDINOUS PORTION; ONE: 0.4 CM DIAMETER; PORTION OF MEDIAL LIVER LOBE MESSHAPEN AND EXTENDS INTO THIN AREA			P
4291413	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4291414	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4291415	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301706	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301709	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
4301710	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4301712	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311109	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311114	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311115	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4311117	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401509	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401510	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401513	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4401514	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4471711	GROUP:	1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/12/99	STUDY DAY	33
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO. 4471712	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/12/99	STUDY DAY 33
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4471713	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/12/99	STUDY DAY 33
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 4471715	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/12/99	STUDY DAY 33
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 6291708	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 6291710	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 6291711	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 6291712	GROUP: 1.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041105	GROUP: 2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041107	GROUP: 2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041113	GROUP: 2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
ANIMAL NO. 3041114	GROUP: 2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

(1232)



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3071310	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3071312	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3071315	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3071316	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381008	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381009	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381012	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3381014	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401011	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401012	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3401014	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
3401016	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3420506	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3420507	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3420510	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3420511	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3511107	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3511108	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3511110	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3511111	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: NO SIGNIFICANT CHANGES OBSERVED						
3511202	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23		
GROSS: HERMAPHRODITE						

PUP EXHIBITS STRUCTURES RESEMBLING BOTH OVARIES AND TESTES;  
APPARENT VAS DEFERENS CONNECT TO SMALLER THAN NORMAL SEMINAL  
VESICLES; RIGHT MALE GONAD LARGER THAN LEFT MALE GONAD -  
BOTH SMALLER THAN NORMAL AND UNDESCENDED;  
APPARENT UTERINE HORNS MEET AT MIDLINE, NO VISIBLE CERVIX

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3511212	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3511213	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3511214	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3511217	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
		KIDNEYS		GROSS: DILATED PELVIS			
				LEFT			1
3591312	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3591314	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3591315	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3591316	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3670809	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
		KIDNEYS		GROSS: DILATED PELVIS			
				RIGHT			1

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3670811	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3670813	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3670816	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3671006	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3671011	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3671014	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3671015	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681008	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681010	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681012	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3681014	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3720907	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720908	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720912	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3720913	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730805	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730806	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730810	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730811	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3730813	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820808	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820811	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3820814	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820816	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820909	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820910	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3820911	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3850710	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3850712	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3850713	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3850714	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4040709	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/30/99	STUDY DAY	21
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4040711	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	9/30/99	STUDY DAY	21
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SCHEDULED EUTHANASIA		GRADE
ANIMAL NO. 4040712	GROUP: 2.5 MG/KG/DAY KIDNEYS FEMALE GROSS: DILATED PELVIS RIGHT GROSS: DARK RED AREA(S) RIGHT APICAL LOBE, ONE, LINEAR - 0.6 X 0.1 CM	1 P
ANIMAL NO. 4040713	GROUP: 2.5 MG/KG/DAY KIDNEYS FEMALE GROSS: DILATED PELVIS RIGHT	1
ANIMAL NO. 4181206	GROUP: 2.5 MG/KG/DAY FEMALE GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
ANIMAL NO. 4211211	GROUP: 2.5 MG/KG/DAY FEMALE GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
ANIMAL NO. 4211212	GROUP: 2.5 MG/KG/DAY FEMALE GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
ANIMAL NO. 4211213	GROUP: 2.5 MG/KG/DAY FEMALE GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
ANIMAL NO. 4211217	GROUP: 2.5 MG/KG/DAY FEMALE GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
ANIMAL NO. 4321208	GROUP: 2.5 MG/KG/DAY TRACHEA FEMALE GROSS: CONTENT ABNORMAL ENTIRE LENGTH, WHITE FOAM	P
ANIMAL NO. 4321210	GROUP: 2.5 MG/KG/DAY LUNGS FEMALE GROSS: CONSOLIDATED ALL LOBES; WITH WHITE FOAM	P

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	GRADE
4321211	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4321213	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	P
		LUNGS		GROSS: CONSOLIDATED		
		TRACHEA		ALL LOBES, WITH WHITE FOAM		
				GROSS: CONTENT ABNORMAL		
				ENTIRE LENGTH, WHITE FOAM		P
4391109	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391112	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391116	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4391117	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441609	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441610	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441611	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4441612	GROUP:	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT



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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
4451308	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY 23	GROSS: NO SIGNIFICANT CHANGES OBSERVED
4451309	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY 23	GROSS: NO SIGNIFICANT CHANGES OBSERVED
4451312	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY 23	GROSS: NO SIGNIFICANT CHANGES OBSERVED
4451314	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY 23	GROSS: NO SIGNIFICANT CHANGES OBSERVED
6250808	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
6250809	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
6250810	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
6250812	2.5 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
3030705	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
3030707	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED
3030709	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY 24	GROSS: NO SIGNIFICANT CHANGES OBSERVED

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24	GRADE
3030710	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24	
3030712	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24	
3260906	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22	
3260908	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22	
3260913	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	22	
3260914	GROUP:	5.0 MG/KG/DAY KIDNEYS URETERS	FEMALE	GROSS: DILATED PELVIS BILATERAL GROSS: DISTENDED BILATERAL	22	1 1
3280805	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23	
3280807	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23	
3280812	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23	
3280813	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3280814	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3300108	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3300109	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3300110	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3300111	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3440906	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3440908	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3440911	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3440914	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3461511	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3461512	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA GRADE

ANIMAL NO.	GROUP	DOSE	SEX	GRADE
3461514	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3461515	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3501108	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3501111	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
		DIAPHRAGM	GROSS: HERNIA	P
			MEDIAL PORTION, 0.3 X 0.3 CM, PORTION OF MEDIAL LIVER LOBE	
			MISSHAPEN AND EXTENDING INTO THORACIC CAVITY	
3501112	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3501114	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3600811	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 9/99 STUDY DAY 30	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3600812	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 9/99 STUDY DAY 30	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3600814	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 9/99 STUDY DAY 30	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	
3600815	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 9/99 STUDY DAY 30	
			GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
3611310	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3611311	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
3611312	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	23
3611314	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
3650910	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3650911	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25
3650912	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	25
3740910	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
3740912	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24
3740913	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
3740917	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	24

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SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3751210	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751211	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751213	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3751214	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811109	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811111	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811112	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3811113	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3931409	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3931410	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3931412	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO.: 3472.4  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	GRADE
3931414	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3981009	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	P
				GROSS: CONTENT ABNORMAL WHITE FOAM		
3981010	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3981012	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3981013	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4021007	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4021008	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4021009	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	
				GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4021010	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 4/99	STUDY DAY 25	1
				GROSS: DILATED PELVIS RIGHT		
				GROSS: DISTENDED RIGHT		1

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	PARAMETER	SCHEDULED EUTHANASIA	STUDY DAY	GRADE
4160807	5.0 MG/KG/DAY	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED	22		
4160808	5.0 MG/KG/DAY	FEMALE	KIDNEYS	SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: DILATED PELVIS LEFT, CYSTIC; ENLARGED - 2.0 X 1.5 X 1.5 CM; CLEAR FLUID CONTENTS	22	3	
4160810	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED	22		
4160811	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/ 1/99 STUDY DAY 22 GROSS: NO SIGNIFICANT CHANGES OBSERVED	22		
4160912	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/14/99 STUDY DAY 35 GROSS: NO SIGNIFICANT CHANGES OBSERVED	35		
4160914	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/14/99 STUDY DAY 35 GROSS: NO SIGNIFICANT CHANGES OBSERVED	35		
4160915	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/14/99 STUDY DAY 35 GROSS: NO SIGNIFICANT CHANGES OBSERVED	35		
4171308	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	23		
4171309	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	23		
4171311	5.0 MG/KG/DAY	FEMALE		SCHEDULED EUTHANASIA 10/ 2/99 STUDY DAY 23 GROSS: NO SIGNIFICANT CHANGES OBSERVED	23		

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 2/99	STUDY DAY 23
4171312	GROUP:	5.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4360808	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4360809	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4360810	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4360814	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 1/99	STUDY DAY 22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4361210	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4361212	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4361214	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4361215	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4431211	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	
4431212	GROUP:	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA 10/ 3/99	STUDY DAY 24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED	

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP	DOSE	SEX	SCHEDULED EUTHANASIA	STUDY DAY
4431213	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4431215	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	24
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4511611	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4511613	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4511615	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
4511616	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3650905	5.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	25
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3081409	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3081410	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3081413	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		
3081414	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	22
			GROSS: NO SIGNIFICANT CHANGES OBSERVED		

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3180409	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180410	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3180411	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181007	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181010	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181014	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3181015	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3191012	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3191013	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3191014	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3191015	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

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ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3270411	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3270412	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3270414	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3270415	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3330612	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3330614	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3330615	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3330618	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3360810	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3360811	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3360812	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
3360813	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3370707	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3370710	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3370711	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3370713	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3580906	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3580910	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3580913	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3641310	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3641312	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3641313	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
INDIVIDUAL F2 PUP GROSS NECROPSY OBSERVATIONS

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
3641315	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3781010	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3781012	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3781013	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3781014	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3941109	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3941113	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3941114	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3941115	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3951507	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
3961610	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
GROSS: NO SIGNIFICANT CHANGES OBSERVED							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 4/99	STUDY DAY	25
3961611	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961612	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
3961615	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050807	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050812	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050814	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4050815	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341013	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341014	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4341015	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4351308	GROUP:	10.0 MG/KG/DAY	FEMALE	GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

SLI STUDY NO. : 3472.4  
CLIENT: NIPERA, INC.

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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
4351309	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4351312	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4351314	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4370811	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4370812	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4370815	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4370816	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4381509	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4381510	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4381513	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							
4381514	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
GROSS: NO SIGNIFICANT CHANGES OBSERVED							

GROSS GRADE CODE: 1-SLIGHT, 2-MODERATE, 3-MARKED, P-PRESENT



SLI STUDY NO.: 3472.4  
CLIENT: NIPERA, INC.

AN ORAL 2-GENERATION NICKEL SULFATE HEXAHYDRATE STUDY IN RATS  
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SCHEDULED EUTHANASIA

ANIMAL NO.	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
4480411	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480413	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480416	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4480418	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 3/99	STUDY DAY	24
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340809	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340811	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340813	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
4340814	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 2/99	STUDY DAY	23
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271114	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271115	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			
6271116	GROUP:	10.0 MG/KG/DAY	FEMALE	SCHEDULED EUTHANASIA	10/ 1/99	STUDY DAY	22
				GROSS: NO SIGNIFICANT CHANGES OBSERVED			

GROSS GRADE CODE: 1- SLIGHT, 2- MODERATE, 3- MARKED, P- PRESENT

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SLI Study No. 3472.4

## APPENDIX W

SLI Historical Control Data

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA  
IMPLANTATION DATA AND POST-IMPLANTATION LOSS ON LACTATION DAY 0**

<b>F0</b>	MEAN IMPLANTATION SCAR COUNT	MEAN NO. LIVE PUPS	MEAN POST-IMPLANTATION LOSS
R-01	16.96	15.48	1.48
R-02	16.00	14.54	1.46
R-03	15.88	14.19	1.69
R-04	14.84	13.00	1.84
R-05	17.25	14.95	2.30
R-06	16.08	15.20	0.88
R-07	15.84	14.40	1.44
R-08	15.54	14.29	1.25
MEAN	16.05	14.51	1.54
RANGE	14.84-17.25	13-15.48	0.88-2.3

Note: Implantation scar count minus the number of live pups on Lactation Day 0 equals post-implantation loss.

Thursday, March 16, 2000

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA  
IMPLANTATION DATA AND POST-IMPLANTATION LOSS ON LACTATION DAY 0**

	MEAN IMPLANTATION SCAR COUNT	MEAN NO. LIVE PUPS	MEAN POST-IMPLANTATION LOSS
<b>F1</b>			
R-01	16.14	14.57	1.57
R-02	16.00	14.44	1.56
R-03	16.12	14.76	1.35
R-04	13.88	12.56	1.31
R-05	16.38	14.94	1.44
R-07	15.90	14.75	1.15
R-08	14.63	13.00	1.63
MEAN	15.58	14.15	1.43
RANGE	13.88-16.38	12.56-14.94	1.15-1.63

Note: Implantation scar count minus the number of live pups on Lactation Day 0 equals post-implantation loss.

Thursday, March 16, 2000

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 0</b>			
R-01	94.4		
R-02	96.7	1.0	
R-03	98.4	1.2	
R-04	95.7	1.1	
R-05	98.4	1.1	
R-07	99.0	0.8	
R-08	97.2	1.0	
R-14	98.0	1.1	
		1.1	
MEAN	97.2	1.0	
RANGE	94.4 - 99.0	(1) - 1.2	

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 01</b>			
R-01	99.0		
R-02	99.2	1.0	7.4
R-03	97.6	1.2	6.7
R-04	99.5	1.1	6.6
R-05	97.9	1.0	6.7
R-07	99.3	0.8	6.7
R-08	99.2	1.0	6.9
R-14	97.9	1.1	7.0
		1.1	6.8
MEAN	98.7	1.0	6.8
RANGE	97.6 - 99.5	(1) - 1.2	6.6 - 7.4

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA  
F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL--%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 04 (BC)</b>			
R-01	98.5		
R-02	98.8	1.0	10.9
R-03	98.0	1.2	9.6
R-04	98.0	1.1	9.3
R-07	98.6	1.1	10.0
R-08	98.0	1.0	10.2
R-14	96.9	1.1	10.2
MEAN	98.1	1.1	9.8
RANGE	96.9 - 98.8	(1) - 1.2	9.3 - 10.9

SLI Study No. 3472.4

(1263)

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 04 (PC)</b>			
R-01	100.0	1.1	11.0
R-02	100.0	1.0	9.7
R-03	100.0	0.9	9.4
R-04	100.0	1.0	9.9
R-07	100.0	1.0	10.2
R-08	100.0	1.0	10.2
R-14	100.0	1.0	9.7
MEAN	100.0	1.0	10.0
RANGE	100.0-100.0	(1) - 1.1	9.4-11.0

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<u>LACTATION DAY: 07</u>			
R-01	100.0	1.1	17.9
R-02	100.0	1.0	16.0
R-03	98.4	0.9	14.4
R-04	100.0	1.0	16.1
R-07	99.4	1.0	16.9
R-08	100.0	1.0	16.4
R-14	100.0	1.0	15.8
MEAN	99.7	1.0	16.2
RANGE	98.4 - 100.0	(1) - 1.1	14.4-17.9

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 14</b>			
R-01	100.0	1.1	38.0
R-02	100.0	1.0	33.5
R-03	99.2	0.9	31.2
R-04	100.0	1.0	33.9
R-07	99.4	1.0	35.5
R-08	100.0	1.0	34.5
R-14	99.3	1.0	34.0
MEAN	99.7	1.0	34.4
RANGE	99.2 - 100.0	(1) - 1.1	31.2-38.0

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL--%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 21</b>			
R-01	100.0		
R-02	100.0	1.1	60.2
R-03	100.0	1.0	53.5
R-04	98.4	0.9	49.8
R-07	99.4	1.0	53.5
R-08	100.0	1.0	56.5
R-14	99.3	1.0	54.8
		1.0	53.9
MEAN	99.6	1.0	54.6
RANGE	98.4 - 100.0	(1) - 1.1	49.8-60.2

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL--%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
LACTATION DAY: Q			
R-01	94.4	1.0	
R-02	96.7	1.2	
R-03	98.4	1.1	
R-04	95.7	1.1	
R-05	98.4	0.8	
R-07	99.0	1.0	
R-08	97.2	1.1	
R-14	98.0	1.1	
MEAN	97.2	1.0	
RANGE	94.4 - 99.0	0.8 - 1.2	

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
LACTATION DAY: 01			
R-01	99.0	1.0	7.4
R-02	99.2	1.2	6.7
R-03	97.6	1.1	6.6
R-04	99.5	1.0	6.7
R-05	97.9	0.8	6.7
R-07	99.3	1.0	6.9
R-08	99.2	1.1	7.0
R-14	97.9	1.1	6.8
MEAN	98.7	1.0	6.8
RANGE	97.6 - 99.5	0.8 - 1.2	6.6 - 7.4

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 04 (BC)</b>			
R-01	98.5	1.0	10.9
R-02	98.8	1.2	9.6
R-03	98.0	1.1	9.3
R-04	98.0	1.1	10.0
R-07	98.6	1.0	10.2
R-08	98.0	1.1	10.2
R-14	96.9	1.1	9.8
MEAN	98.1	1.1	10.0
RANGE	96.9 - 98.8	1.0 - 1.2	9.3 - 10.9

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA  
F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 04 (PC)</b>			
R-01	100.0	1.1	11.0
R-02	100.0	1.0	9.7
R-03	100.0	0.9	9.4
R-04	100.0	1.0	9.9
R-07	100.0	1.0	10.2
R-08	100.0	1.0	10.2
R-14	100.0	1.0	9.7
MEAN	100.0	1.0	10.0
RANGE	100.0- 100.0	0.9 -1.1	9.4 - 11.0

SLI Study No. 3472.4

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
LACTATION DAY: 07			
R-01	100.0	1.1	17.9
R-02	100.0	1.0	16.0
R-03	98.4	0.9	14.4
R-04	100.0	1.0	16.1
R-07	99.4	1.0	16.9
R-08	100.0	1.0	16.4
R-14	100.0	1.0	15.8
MEAN	99.7	1.0	16.2
RANGE	98.4 - 100.0	0.9 - 1.1	14.4 - 17.9



**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
<b>LACTATION DAY: 14</b>			
R-01	100.0	1.1	38.0
R-02	100.0	1.0	33.5
R-03	99.2	0.9	31.2
R-04	100.0	1.0	33.9
R-07	99.4	1.0	35.5
R-08	100.0	1.0	34.5
R-14	99.3	1.0	34.0
MEAN	99.7	1.0	34.4
RANGE	99.2 - 100.0	0.9 - 1.1	31.2 - 38.0

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**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP SURVIVAL AND BODY WEIGHT**

STUDY NO.	PUP SURVIVAL-%	SEX RATIO (M/F)	MEAN PUP WEIGHT (G)
LACTATION DAY: 21			
R-01	100.0	1.1	60.2
R-02	100.0	1.0	53.5
R-03	100.0	0.9	49.8
R-04	98.4	1.0	53.5
R-07	99.4	1.0	56.5
R-08	100.0	1.0	54.8
R-14	99.3	1.0	53.9
MEAN	99.6	1.0	54.6
RANGE	98.4 - 100.0	0.9 - 1.1	49.8 - 60.2

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F1 PUP DATA DURING LACTATION**

STUDY NO.	% LIVE PUPS	% DEAD PUPS	% LITTERS WITH LIVE OFFSPRING	SEX RATIO (M/F)	SEX RATIO (M/TOTAL)	MEAN LIVE LITTER SIZE
<b>LACTATION DAY: 0</b>						
R-01	97.3	2.7	92.0	1.2	54.8	15.5
R-02	99.1	0.9	96.0	0.9	48.4	14.5
R-03	97.4	2.6	94.1	1.0	49.3	14.2
R-04	95.6	4.4	100.0	1.1	51.7	13.0
R-05	97.7	2.3	100.0	1.1	51.8	15.0
R-06	97.7	2.3	100.0	1.1	52.6	15.2
R-07	97.3	2.7	100.0	1.0	50.0	14.4
R-08	98.6	1.4	96.0	1.2	54.8	14.3
R-14	98.4	1.6	100.0	1.1	53.3	14.4
MEAN	97.7	2.3	97.6	1.1	51.9	14.5
RANGE	95.6 - 99.1	0.9 - 4.4	92.0 - 100.0	0.9 - 1.2	48.4 - 54.8	13.0 - 15.5

**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA**  
**F2 PUP DATA DURING LACTATION**

STUDY NO.	% LIVE PUPS	% DEAD PUPS	% LITTERS WITH LIVE OFFSPRING	SEX RATIO (M/TOTAL)	MEAN LIVE LITTER SIZE
<b>LACTATION DAY: 9</b>					
R-01	94.4	5.6	70.0	50.5	14.6
R-02	96.7	3.3	90.0	54.2	14.4
R-03	98.4	1.6	100.0	52.2	14.8
R-04	95.7	4.3	80.0	51.2	12.6
R-05	98.4	1.6	80.0	43.1	14.9
R-07	99.0	1.0	100.0	49.8	14.8
R-08	97.2	2.8	95.0	52.2	13.0
R-14	98.0	2.0	100.0	52.6	15.2
MEAN	97.2	2.8	89.4	50.7	14.3
RANGE	94.4 - 99.0	1.0 - 5.6	70.0 - 100.0	43.1 - 54.2	12.6 - 15.2

**SPRINGBORN LABORATORIES, INC., DEVELOPMENTAL LANDMARKS HISTORICAL CONTROL DATA  
VAGINAL OPENING**

STUDY NO.	NO. OF PUPS	NO. OF PUPS COMPLETED	PERCENTAGE OF PUPS COMPLETED	RANGE OF PERCENTAGES	
				MINIMUM	MAXIMUM
<u>POSTPARTUM DAY</u> 29					
R-04	20	1	5.0	5.0	5.0
<u>POSTPARTUM DAY</u> 30					
R-04	20	5	25.0	25.0	25.0
<u>POSTPARTUM DAY</u> 31					
R-04	20	7	35.0	35.0	35.0
<u>POSTPARTUM DAY</u> 32					
R-04	20	16	80.0	80.0	80.0
<u>POSTPARTUM DAY</u> 33					
R-06	20	20	100.0		
R-04	20	19	95.0		
R-05	20	20	100.0		
R-07	20	19	95.0		
R-08	20	19	95.0		

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**SPRINGBORN LABORATORIES, INC., DEVELOPMENTAL LANDMARKS HISTORICAL CONTROL DATA  
VAGINAL OPENING**

STUDY NO.	NO. OF PUPS	NO. OF PUPS COMPLETED	PERCENTAGE OF PUPS COMPLETED	RANGE OF PERCENTAGES	
				MINIMUM	MAXIMUM
R-14	20	19	95.0	95.0	100.0
<b>POSTPARTUM DAY 34</b>					
R-04	20	20	100.0		
R-07	20	20	100.0		
R-08	20	20	100.0		
R-14	20	20	100.0	100.0	100.0

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**SPRINGBORN LABORATORIES, INC., DEVELOPMENTAL LANDMARKS HISTORICAL CONTROL DATA  
PREPUTIAL SEPARATION**

STUDY NO.	NO. OF PUPS	NO. OF PUPS COMPLETED	PERCENTAGE OF PUPS COMPLETED	RANGE OF PERCENTAGES	
				MINIMUM	MAXIMUM

POSTPARTUM DAY 40

R-04	20	0	0.0		
R-06	20	1	5.0		
R-14	20	5	25.0		
				0.0	25.0

POSTPARTUM DAY 41

R-04	20	4	20.0		
R-06	20	4	20.0		
R-14	20	7	35.0		
				20.0	35.0

POSTPARTUM DAY 42

R-04	20	9	45.0		
R-06	20	7	35.0		
R-14	20	14	70.0		
				35.0	70.0

POSTPARTUM DAY 43

R-04	20	17	85.0		
R-06	20	14	70.0		

**SPRINGBORN LABORATORIES, INC., DEVELOPMENTAL LANDMARKS HISTORICAL CONTROL DATA  
PREPUTIAL SEPARATION**

STUDY NO.	NO. OF PUPS	NO. OF PUPS COMPLETED	PERCENTAGE OF PUPS COMPLETED	RANGE OF PERCENTAGES	
				MINIMUM	MAXIMUM
R-14	20	18	90.0	70.0	90.0
<b>POSTPARTUM DAY 44</b>					
R-04	20	18	90.0		
R-06	20	18	90.0		
R-14	20	18	90.0	90.0	90.0
<b>POSTPARTUM DAY 45</b>					
R-04	20	20	100.0		
R-06	20	20	100.0		
R-14	20	20	100.0	100.0	100.0



**SPRINGBORN LABORATORIES, INC. HISTORICAL CONTROL DATA  
SPERM ANALYSIS**

STUDY NO.	% MOTILITY			CONCENTRATION*			TOTAL SPERM**		
	MEAN	MINIMUM	MAXIMUM	MEAN	MINIMUM	MAXIMUM	MEAN	MINIMUM	MAXIMUM
R-05	86.8	63.0	95.0	5.3	2.6	7.4	1,198.7	763.4	1,569.4
R-09	85.0	46.0	95.0	4.3	1.1	6.6	877.9	221.2	1,388.7
R-10***	86.6	20.0	96.0				1,091.4	712.0	1,406.2
R-11	88.0	18.0	95.0	4.8	1.1	7.6	981.1	385.5	1,473.1
R-11-5	88.0	64.0	96.0	4.9	3.4	7.5	1,021.9	719.2	1,651.3
R-13	86.8	70.0	94.0	4.2	3.5	6.5	936.7	714.7	1,242.3
R-15	71.0	40.0	82.0	4.8	2.7	5.6	1,053.0	525.0	1,343.0
R-16	89.0	54.0	97.0	3.7	2.4	5.1	803.6	494.3	1,187.9
R-16PP	89.0	70.0	96.0	3.6	2.4	5.2	885.2	525.2	1,142.6
R-17	85.0	28.0	95.0	3.8	2.4	6.2	841.4	567.0	1,268.5
MEAN	85.5	47.3	94.1	4.4	2.4	6.4	969.1	562.7	1,367.3
RANGE	71-89	18-70	82-97	3.6-5.3	1.1-3.5	5.1-7.6	803.6-1198.7	221.18-763.4	1142.6-1651.25

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APPENDIX WW

SLI Personnel Responsibilities

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### SLI PERSONNEL RESPONSIBILITIES

Joseph C. Siglin, Ph.D., DABT	Study Director, Vice President and Director of Research
Bjorn A. Thorsrud, Ph.D.	Alternate Contact/Manager, Developmental and Reproductive Toxicology
Malcolm Blair, Ph.D.	Senior Vice President and Managing Director
Robert C. Springborn, Ph.D.	Chairman, President and CEO
J. Dale Thurman, D.V.M., M.S., DACVP	Director of Pathology
William H. Baker, D.V.M., M.S., DACVP	Associate Director of Pathology
Anita M. Bosau, RQAP-GLP	Director of Compliance Assurance
Deanna M. Talerico, RQAP-GLP	Supervisor of Quality Assurance
Linda Unrue, B.S., LATG	Supervisor of Developmental and Reproductive Toxicology
Delores P. Knippen	Supervisor of Pharmacy
M. Gardner Clemons, B.A.	Supervisor of Analytical Chemistry
Steven H. Magness, B.S., LATG	Supervisor of Gross and Fetal Pathology
Cheryl A. Bellamy	Supervisor of Nonacute Report Preparation
Kathy M. Gasser	Supervisor of Archives