

Experiment Number: 60311 - 03
Test Type: 90-DAY
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
Time Report Requested: 08:59:19
First Dose M/F: 03/08/05 / 03/07/05
Lab: BNW

F2_R2

NTP Study Number: C60311
Lock Date: 11/29/2005
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.6.0.0_007
PWG Approval Date: NONE

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Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
	control										
ANIMAL ID		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	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Hepatodiaphragmatic Nodule		X									1
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Duct, Cyst						3					1 3.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Hyperplasia, Squamous						3					1 3.0
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID
	9	9	9	9	9	9	9	9	9	9	
FISCHER 344 RATS MALE	3	3	3	3	3	3	3	3	3	3	
control	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	0	0	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
* TOTALS											

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy	1	1	1	1	1	1		1	1		8 1.0

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	+	+	+	10
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID	
	9	9	9	9	9	9	9	9	9	9		
FISCHER 344 RATS MALE	3	3	3	3	3	3	3	3	3	3		
control	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	0	0		
	0	0	0	0	0	0	0	0	0	1		
	1	2	3	4	5	6	7	8	9	0		* TOTALS
Testes	+	+	+	+	+	+	+	+	+	+		10
HEMATOPOIETIC SYSTEM												
Bone Marrow	+	+	+	+	+	+	+	+	+	+		10
Lymph Node, Bronchial	M	M	M	M	M	M	M	M	M	M		0
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M		0
Lymph Node, Mediastinal	+	+	+	+	+	+	+	M	+	+		9
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+		10
Spleen	+	+	+	+	+	+	+	+	+	+		10
Thymus	+	+	+	+	+	+	+	+	+	+		10
INTEGUMENTARY SYSTEM												
Mammary Gland	M	M	+	M	+	+	+	+	+	+		7
Skin	+	+	+	+	+	+	+	+	+	+		10
MUSCULOSKELETAL SYSTEM												
Bone	+	+	+	+	+	+	+	+	+	+		10
NERVOUS SYSTEM												
Brain	+	+	+	+	+	+	+	+	+	+		10

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		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	control	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	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	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	0
	1	2	3	4	5	6	7	8	9	0											
																			* TOTALS		

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Alveolus, Hemorrhage			1																	1	2 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Retina, Atrophy																					1 1.0
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active																					3 1 3.0

URINARY SYSTEM

Kidney	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	9
Nephropathy																					4 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

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FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.625 MG/M3	9	9	9	9	9	9	9	9	9	9	9	9	9
	ANIMAL ID	3	3	3	3	3	3	3	3	3	3	3	3	3
		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
		2	2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0			
* TOTALS														

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	3	
0.625 MG/M3	ANIMAL ID	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0	0		
	2	2	2	2	2	2	2	2	2	2		
	0	0	0	0	0	0	0	0	0	1		
		1	2	3	4	5	6	7	8	9	0	* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	2	2	2	2	2	2	2	1	2	2	10 1.9
Alveolus, Proteinosis	1	2	2	2	2	2	2	1	2	2	10 1.8
Nose	+	+	+	+	+	+	+	+	+	+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

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FISCHER 344 RATS MALE	DAY ON TEST	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
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3
1.25 MG/M3	ANIMAL ID	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
		4	4	4	4	4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	0	0	1	0	0
	1	2	3	4	5	6	7	8	9	0					
														* TOTALS	

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10
Prostate				+												1
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3
	1.25 MG/M3	0	0	0	0	0	0	0	0	0	0
ANIMAL ID		0	0	0	0	0	0	0	0	0	0
		4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10		
Inflammation, Chronic Active	1	2	2	2	2	2	2	2	2	2		10	1.9
Alveolus, Hemorrhage			1							1		2	1.0
Alveolus, Proteinosis	2	2	2	2	3	2	2	3	2	2		10	2.2
Bronchiole, Epithelium, Hyperplasia	1	1	1	1	1	1	1	1	1	1		10	1.0
Nose	+	+	+	+	+	+	+	+	+	+	10		
Olfactory Epithelium, Degeneration						1		1				2	1.0
Olfactory Epithelium, Hyperplasia						1		1				2	1.0
Respiratory Epithelium, Hyperplasia				1				1	1			3	1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

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FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.5 MG/M3		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		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	0	0
		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0					

* TOTALS

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10	
Inflammation, Chronic Active	1	1	1	1	2	2	1	2	2	2		10 1.5
Alveolus, Hemorrhage				1	1	1		1				4 1.0
Alveolus, Proteinosis	2	2	2	2	3	2	2	3	2	2		10 2.2
Bronchiole, Epithelium, Hyperplasia	1	2	2	2	2	1	1	1	1	1		10 1.4
Nose	+	+	+	+	+	+	+	+	+	+	10	
Olfactory Epithelium, Degeneration	1	1	1		1	1	1	1	1	1		9 1.0
Olfactory Epithelium, Hyperplasia			2	1	1			1	1	1		6 1.2
Respiratory Epithelium, Hyperplasia	1	1	1	1	1	1	1	1		1		9 1.0
Turbinate, Atrophy	1		1				1					3 1.0

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NONE

URINARY SYSTEM

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DAY ON TEST		0	0	0	0	0	0	0	0	0	0
FISCHER 344 RATS MALE		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3
5.0 MG/M3		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands Inflammation, Acute	+	+	+	+	+	+	2	+	+	+	10 1 2.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy		1		1		1	1	1			5 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 08:59:19

First Dose M/F: 03/08/05 / 03/07/05

Lab: BNW

FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0		
		9	9	9	9	9	9	9	9	9		
		3	3	3	3	3	3	3	3	3		
5.0 MG/M3	ANIMAL ID	0	0	0	0	0	0	0	0	0		
	0	0	0	0	0	0	0	0	0			
	8	8	8	8	8	8	8	8	8			
	0	0	0	0	0	0	0	0	1			
		1	2	3	4	5	6	7	8	9	0	* TOTALS

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	+	+	+	M	+	+	M	+	+	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	M	+	9
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
1) Minimal 3) Moderate
2) Mild 4) Marked

Experiment Number: 60311 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 08:59:19

First Dose M/F: 03/08/05 / 03/07/05

Lab: BNW

FISCHER 344 RATS MALE 5.0 MG/M3	DAY ON TEST										ANIMAL ID			
	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3				
	0	0	0	0	0	0	0	0	0	0	0 0 8 0 1			
	1	2	3	4	5	6	7	8	9	0				* TOTALS
Bone Marrow	+	+	+	+	+	+	+	+	+	+				10
Lymph Node Pancreatic, Pigmentation												+	2	1 1 2.0
Lymph Node, Bronchial	M	M	M	M	M	M	M	M	M	M				0
Lymph Node, Mandibular	+	M	M	M	M	M	M	M	M	M				1
Lymph Node, Mediastinal	+	+	+	M	+	+	M	+	M	+				7
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+				10
Spleen	+	+	+	+	+	+	+	+	+	+				10
Thymus	+	+	+	+	+	+	+	+	+	+				10
INTEGUMENTARY SYSTEM														
Mammary Gland	+	+	+	M	+	+	+	+	M	M				7
Skin	+	+	+	+	+	+	+	+	+	+				10
MUSCULOSKELETAL SYSTEM														
Bone	+	+	+	+	+	+	+	+	+	+				10
NERVOUS SYSTEM														
Brain	+	+	+	+	+	+	+	+	+	+				10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 08:59:19

First Dose M/F: 03/08/05 / 03/07/05

Lab: BNW

FISCHER 344 RATS MALE 5.0 MG/M3	DAY ON TEST	0	0	0	0	0	0	0	0	0	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
		0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	
* TOTALS											

RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	2	3	2	2	3	2	2	3	3	2	10 2.4
Alveolar Epithelium, Hyperplasia					2					1	2 1.5
Alveolus, Hemorrhage	1					1		1		1	4 1.0
Alveolus, Proteinosis	3	3	3	2	3	2	3	3	2	3	10 2.7
Bronchiole, Epithelium, Hyperplasia	2	2	2	2	2	2	2	3	2	3	10 2.2
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epithelium, Degeneration	2	2	3	3	3	3	2	3	2	2	10 2.5
Olfactory Epithelium, Hyperplasia	1	2	1	2	2	2	1	2	2	2	10 1.7
Respiratory Epithelium, Hyperplasia	2	2	2	2	2	1	2	2	2	1	10 1.8
Respiratory Epithelium, Metaplasia, Squamous							1				1 1.0
Turbinates, Atrophy	1	1	1	1	1	1			1	1	9 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10

URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	10
Nephropathy		1									1 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
	5.0 MG/M3										
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											
Urinary Bladder		+	+	+	+	+	+	+	+	+	10

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS FEMALE		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
control	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy	1	1									2 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS FEMALE		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	
control	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	M	+	M	+	+	M	+	7
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	M	M	M	M	M	M	M	M	M	M	0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

FISCHER 344 RATS FEMALE control	DAY ON TEST										ANIMAL ID			
	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3	0 9 3				
	0	0	0	0	0	0	0	0	0	0	0 0 1 0 1			
	0	0	0	0	0	0	0	0	0	0	0 0 1 0 1			
	1	2	3	4	5	6	7	8	9	0				
	* TOTALS													
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M			0	
Lymph Node, Mediastinal	+	M	M	+	+	+	+	+	+	+			8	
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			10	
Spleen	+	+	+	+	+	+	+	+	+	+			10	
Thymus	+	+	+	+	+	+	+	+	+	+			10	
INTEGUMENTARY SYSTEM														
Mammary Gland	+	+	+	+	+	+	+	+	+	+			10	
Skin	+	+	+	+	+	+	+	+	+	+			10	
MUSCULOSKELETAL SYSTEM														
Bone	+	+	+	+	+	+	+	+	+	+			10	
NERVOUS SYSTEM														
Brain	+	+	+	+	+	+	+	+	+	+			10	
RESPIRATORY SYSTEM														
Larynx	+	+	+	+	+	+	+	+	+	+			10	
Lung	+	+	+	+	+	+	+	+	+	+			10	
Inflammation, Chronic Active									1	1				2 1.0

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
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1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 08:59:19

First Dose M/F: 03/08/05 / 03/07/05

Lab: BNW

		0	0	0	0	0	0	0	0	0	
DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS FEMALE		9	9	9	9	9	9	9	9	9	
control		3	3	3	3	3	3	3	3	3	
ANIMAL ID		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	
		0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0
* TOTALS											
Nose		+	+	+	+	+	+	+	+	+	10
Trachea		+	+	+	+	+	+	+	+	+	10
SPECIAL SENSES SYSTEM											
Eye		+	+	+	+	+	+	+	+	+	10
Harderian Gland		+	+	+	+	+	+	+	+	+	10
URINARY SYSTEM											
Kidney		+	+	+	+	+	+	+	+	+	10
Urinary Bladder		+	+	+	+	+	+	+	+	+	10

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
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X .. Lesion present
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Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

FISCHER 344 RATS FEMALE	DAY ON TEST	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
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3
0.625 MG/M3	ANIMAL ID	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
		3	3	3	3	3	3	3	3	3	3	3	3	3	3
		0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0				
* TOTALS															

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	2	2	2	2	2	2	1	2	2	2	10 1.9
Alveolus, Proteinosis	2	2	1	2	2	2	2	2	2	1	10 1.8
Nose	+	+	+	+	+	+	+	+	+	+	10
Respiratory Epithelium, Hyperplasia						1					1 1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

FISCHER 344 RATS FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		3	3	3	3	3	3	3	3	3	3	
1.25 MG/M3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	5	
		0	0	0	0	0	0	0	0	0	1	
		1	2	3	4	5	6	7	8	9	0	* TOTALS

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
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1-4 .. Lesion qualified as:
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Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FISCHER 344 RATS FEMALE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1.25 MG/M3		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	0	0	0	0	0	0	0	0	0	0
		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	ANIMAL ID	1	2	3	4	5	6	7	8	9	0									
* TOTALS																				

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10			
Inflammation, Chronic Active	1	2	2	1	1	1	2	1	2	2											10	1.5	
Alveolus, Hemorrhage			1		1				1												3	1.0	
Alveolus, Proteinosis	2	2	2	2	1	2	2	2	2	2											10	1.9	
Bronchiole, Epithelium, Hyperplasia	1	1	1	1	1	1	1	1	1	1											10	1.0	
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10			
Olfactory Epithelium, Degeneration						1	1	1	1													5	1.0
Respiratory Epithelium, Necrosis							1															1	1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

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 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 60311 - 03
 Test Type: 90-DAY
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F 344/N

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 08/16/2012
 Time Report Requested: 08:59:19
 First Dose M/F: 03/08/05 / 03/07/05
 Lab: BNW

FISCHER 344 RATS FEMALE	DAY ON TEST	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
		9	9	9	9	9	9	9	9	9	9	9	9	9	9
		3	3	3	3	3	3	3	3	3	3	3	3	3	3
2.5 MG/M3	ANIMAL ID	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
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	0	0	1	0	0
	1	2	3	4	5	6	7	8	9	0					
* TOTALS															

ALIMENTARY SYSTEM

NONE

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Ovary	+	1
Cyst	2	1 2.0

HEMATOPOIETIC SYSTEM

NONE

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

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FISCHER 344 RATS FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	9	9	9	9	9	9	9	9	9	9	9	9	9	9
2.5 MG/M3		3	3	3	3	3	3	3	3	3	3	3	3	3	3
		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
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	0	0	0	1	0
		1	2	3	4	5	6	7	8	9	0				
* TOTALS															

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Lung	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	2	2	2	2	2	1	2	1	1	1	10 1.6
Alveolus, Hemorrhage		1									1 1.0
Alveolus, Proteinosis	2	2	2	2	3	2	2	1	1	2	10 1.9
Bronchiole, Epithelium, Hyperplasia	1	1	2	2	2	1	1	1	1	1	10 1.3
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epithelium, Degeneration	1	1	1	1	1	1	1	1	1	1	10 1.0
Olfactory Epithelium, Hyperplasia		1				1			1		3 1.0
Respiratory Epithelium, Hyperplasia	1	1	1		1	1	1	1	1	1	9 1.0
Turbinate, Atrophy			1				1	1		1	4 1.0

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

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DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS FEMALE	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	3	3	3	3	3	3	3	3	3	3	
5.0 MG/M3	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
* TOTALS											

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Hepatodiaphragmatic Nodule									X		1
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

CARDIOVASCULAR SYSTEM

Heart	+	+	+	+	+	+	+	+	+	+	10
Cardiomyopathy		1		1					1		3 1.0

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DAY ON TEST		0	0	0	0	0	0	0	0	0	
FISCHER 344 RATS FEMALE	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	3	3	3	3	3	3	3	3	3	3	
5.0 MG/M3	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	
	9	9	9	9	9	9	9	9	9	9	
	0	0	0	0	0	0	0	0	0	1	
	1	2	3	4	5	6	7	8	9	0	
* TOTALS											

ENDOCRINE SYSTEM

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	+	+	+	+	+	+	M	+	M	8
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland	+	+	+	+	+	+	+	+	+	+	10
Ovary	+	+	+	+	+	+	+	+	+	+	10
Uterus	+	+	+	+	+	+	+	+	+	+	10

HEMATOPOIETIC SYSTEM

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	M	M	M	M	M	M	M	M	M	M	0

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DAY ON TEST	0	0	0	0	0	0	0	0	0	0	ANIMAL ID		
	9	9	9	9	9	9	9	9	9	9			
FISCHER 344 RATS FEMALE	3	3	3	3	3	3	3	3	3	3			
5.0 MG/M3	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	9	9	9	9	9	9	9	9	9	9			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Lymph Node, Mandibular	M	M	M	M	M	M	M	M	M	M			0
Lymph Node, Mediastinal	+	M	+	M	+	+	+	+	+	+			8
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+			10
Spleen	+	+	+	+	+	+	+	+	+	+			10
Thymus	+	+	+	+	+	+	+	+	+	+			10
INTEGUMENTARY SYSTEM													
Mammary Gland	+	+	+	+	+	+	+	+	+	+			10
Skin	+	+	+	+	+	+	+	+	+	+			10
MUSCULOSKELETAL SYSTEM													
Bone	+	+	+	+	+	+	+	+	+	+			10
NERVOUS SYSTEM													
Brain	+	+	+	+	+	+	+	+	+	+			10
RESPIRATORY SYSTEM													
Larynx	+	+	+	+	+	+	+	+	+	+			10
Lung	+	+	+	+	+	+	+	+	+	+			10
Inflammation, Chronic Active	2	2	3	3	3	2	3	2	2	2			10 2.4
Alveolar Epithelium, Hyperplasia			1										1 1.0

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	0	0	0	0	0	0	0	0	0	0			
FISCHER 344 RATS FEMALE	9	9	9	9	9	9	9	9	9	9			
5.0 MG/M3	3	3	3	3	3	3	3	3	3	3			
	0	0	0	0	0	0	0	0	0	0			
	0	0	0	0	0	0	0	0	0	0			
	9	9	9	9	9	9	9	9	9	9			
	0	0	0	0	0	0	0	0	0	1			
	1	2	3	4	5	6	7	8	9	0			* TOTALS
Alveolus, Hemorrhage						1		1					2 1.0
Alveolus, Proteinosis	2	3	2	2	2	2	2	2	2	2			10 2.1
Bronchiole, Epithelium, Hyperplasia	2	2	2	2	2	2	2	2	2	2			10 2.0
Nose	+	+	+	+	+	+	+	+	+	+			10
Olfactory Epithelium, Degeneration	3	2	2	3	3	3	2	3	2	2			10 2.5
Olfactory Epithelium, Hyperplasia	2	2	2	2	3	3	2	2	2	2			10 2.2
Respiratory Epithelium, Hyperplasia	2	2	2	2	1	2	2	2	2	1			10 1.8
Turbinate, Atrophy	1	1			1	1	1			1			6 1.0
Trachea	+	+	+	+	+	+	+	+	+	+			10
SPECIAL SENSES SYSTEM													
Eye	+	+	+	+	+	+	+	+	+	+			10
Harderian Gland	+	+	+	+	+	+	+	+	+	+			10
URINARY SYSTEM													
Kidney	+	+	+	+	+	+	+	+	+	+			10
Nephropathy	1								1				2 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+			10

*** END OF REPORT ***

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