

**TDMS No.** 60311 - 06

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Cobalt

**CAS Number:** 7440-48-4

**Date Report Requested:** 09/08/2011

**Time Report Requested:** 08:23:28

**First Dose M/F:** 05/15/06 / 05/15/06

**Lab:** BNW

F1\_M3

**C Number:** C60311  
**Lock Date:** 12/03/2008  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 2.4.2.1\_003  
**PWG Approval Date:** NONE

<b>B6C3F1 MICE MALE</b> <b>control</b>	DAY ON TEST	0729	0638	0729	0642	0773	0678	0772	0677	0777	0677	0777	0677	0777	0676	0777	0677	0777	0677	0777	0676	0777	0677	0777	
	ANIMAL ID	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024
<b>males (cont...)</b>																									

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	+	+	A	+	+	M	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Intestine Large, Cecum	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+
Intestine Large, Rectum	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Intestine Small, Duodenum Inflammation, Chronic Active	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Intestine Small, Ileum	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Intestine Small, Jejunum	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Basophilic Focus												X												X	
Clear Cell Focus			X	X	X							X	X			X				X	X				
Eosinophilic Focus									X										X						
Mixed Cell Focus													X												
Necrosis																								4	
Tension Lipidosis																									
Mesentery	+						+															+			
Fat, Necrosis	2						2																2		

\* .. 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



B6C3F1 MICE MALE control	DAY ON TEST																									males (cont...)
	0729	0638	0729	0646	0771	0767	0678	0779	0777	0677	0777	0777	0676	0776	0777	0677	0777	0777	0677	0777	0676	0777	0777	0677	0777	
ANIMAL ID	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	
Islets, Pancreatic Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	
Parathyroid Gland	+	+	+	+	M	+	+	+	M	+	+	+	+	+	+	M	+	+	M	M	+	M	M	M	+	
Pituitary Gland Pars Distalis, Hyperplasia	+	+	+	I	+	+	+	+	+	+	+	+	+	M	+	+	I	+	+	+	+	+	+	+	+	
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>GENERAL BODY SYSTEM</b>																										
NONE																										
<b>GENITAL SYSTEM</b>																										
Epididymis Granuloma Sperm	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Preputial Gland Ectasia Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	A	+	
Testes Germinal Epithelium, Degeneration	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
										2		1								1		2	1		1	

**HEMATOPOIETIC SYSTEM**

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<b>B6C3F1 MICE MALE</b>	DAY ON TEST	07	06	07	06	07	07	06	07	07	07	07	07	06	07	07	07	07	07	07	06	07	07	06	07	07
	ANIMAL ID	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024	0025

males (cont...)

**NERVOUS SYSTEM**

Brain	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Peripheral Nerve Degeneration																									
Spinal Cord																									

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	I	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Suppurative									1			1	1		1								1	
Inflammation, Chronic																								
Respiratory Epithelium, Metaplasia, Squamous																						1		
Squamous Epithelium, Erosion																								
Squamous Epithelium, Hyperplasia																								1
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Suppurative																								
Proteinosis													1											
Alveolar Epithelium, Hyperplasia						1																2		
Alveolus, Infiltration Cellular, Histiocyte					1								4	1										
Bronchiole, Epithelium, Hyperplasia									3															
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Inflammation, Suppurative														1	1	1								1
Olfactory Epithelium, Atrophy																						1		
Olfactory Epithelium, Metaplasia, Respiratory									2															1
Respiratory Epithelium, Accumulation, Hyaline Droplet					1					1		1		1		1		2						

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B6C3F1 MICE MALE control	DAY ON TEST																								* TOTALS			
	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729				
ANIMAL ID	00026	00027	00028	00029	00030	00031	00032	00033	00034	00035	00036	00037	00038	00039	00040	00041	00042	00043	00044	00045	00046	00047	00048	00049	00050			
Respiratory Epithelium, Hyperplasia	1	2		2	2	1	2	2	1	1	2	2	1	1	2	2	1	1	1	1	2	2	1	1	1	44	1.4	
Respiratory Epithelium, Metaplasia, Squamous											1	1														3	1.0	
Squamous Epithelium, Erosion											1															1	1.0	
Turbinate, Atrophy												1													1	3	1.3	
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48		
<b>SPECIAL SENSES SYSTEM</b>																												
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	47		
Cataract															3												1	3.0
Cornea, Inflammation, Chronic Active											1	3															4	2.8
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49		
Hyperplasia																											1	3.0
<b>URINARY SYSTEM</b>																												
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Cyst																											1	2.0
Infarct																											2	2.0
Nephropathy	2	3	1	1	1	1	1	1	2		2	1	2	1		1	1	2	1	1	1	1	1	1	2	46	1.5	
Capsule, Hemorrhage																4											1	4.0
Pelvis, Inflammation, Suppurative																											1	2.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	48		
Inflammation, Chronic Active																											1	3.0
Transitional Epithelium, Hyperplasia																											1	3.0

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<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0729	0729	0729	0628	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0729	0628	0628	0729	0729	0729	0729	0729	0729	0528	0528	<b>males (cont...)</b>
	<b>1.25 mg/m3</b>	ANIMAL ID	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	0020	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder	+	M	+	M	+	M	A	+	+	+	+	M	+	+	+	+	+	+	+	+	+	M	M	+	+	
Intestine Large, Cecum	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	I	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum Inflammation, Acute	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Angiectasis																										
Basophilic Focus							X				X														X	
Clear Cell Focus									X	X	X	X	X	X						X	X	X				
Eosinophilic Focus																X										X
Hepatodiaphragmatic Nodule Necrosis																X										
Mesentery								+								+						+				
Fat, Necrosis																2							2			

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<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0729	0660	0730	0735	0737	0633	0739	0572	0731	0771	0622	0711	0677	0729	0573	0730	0773	0773	0731	0733	0691	0661	0663	<b>* TOTALS</b>
	ANIMAL ID	00226	00227	00228	00229	00230	00231	00232	00233	00234	00235	00236	00237	00238	00239	00240	00241	00242	00243	00244	00245	00246	00247	00248	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Gallbladder	+	+	+	+	A	+	+	+	+	+	A	A	M	+	+	+	+	+	+	+	+	M	M	+	<b>37</b>	
Intestine Large, Cecum	+	+	+	+	A	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>45</b>	
Intestine Large, Colon	+	+	+	+	A	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>45</b>	
Intestine Large, Rectum	+	+	+	+	A	+	+	+	I	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>44</b>	
Intestine Small, Duodenum	+	+	+	+	A	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>44</b>	
Intestine Small, Ileum Inflammation, Acute	+	+	+	+	A	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>45</b>	<b>1 4.0</b>
Intestine Small, Jejunum	+	+	+	+	A	+	+	+	+	+	A	A	+	+	+	+	+	+	+	A	+	+	+	+	<b>45</b>	
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>	
Angiectasis																									<b>1</b>	<b>2.0</b>
Basophilic Focus				X																					<b>4</b>	
Clear Cell Focus			X	X		X		X		X	X							X			X				<b>17</b>	
Eosinophilic Focus				X									X		X										<b>5</b>	
Hepatodiaphragmatic Nodule							X												X						<b>3</b>	
Necrosis					3								2										2		<b>3</b>	<b>2.3</b>
Mesentery					+																		+	<b>5</b>		
Fat, Necrosis					2																		2		<b>4</b>	<b>2.0</b>

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B6C3F1 MICE MALE 1.25 mg/m3	DAY ON TEST																								* TOTALS	
	0729	0660	0763	0773	0457	0733	0639	0729	0511	0711	0671	0766	0771	0671	0767	0773	0571	0723	0733	0731	0730	0668	0661	0663		
ANIMAL ID	00226	00227	00228	00229	00230	00231	00232	00233	00234	00235	00236	00237	00238	00239	00240	00241	00242	00243	00244	00245	00246	00247	00248	00249		
Adrenal Medulla Hyperplasia	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49 2 2.0	
Islets, Pancreatic Hyperplasia	+	+	+	+	A	+	+	+	+	+	2	A	+	+	+	+	+	+	+	2	3	A	+	+	+	47 3 2.3
Parathyroid Gland	+	M	M	M	A	M	M	M	M	+	M	M	M	M	+	+	+	+	M	M	+	+	M	+	25	
Pituitary Gland Pars Distalis, Hyperplasia	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49 2 3.0	
Thyroid Gland	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
<b>GENERAL BODY SYSTEM</b>																										
NONE																										
<b>GENITAL SYSTEM</b>																										
Coagulating Gland				+																					1	
Epididymis	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Preputial Gland Ectasia Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50 1 3.0 1 3.0	
Prostate Inflammation, Acute	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49 1 3.0		
Seminal Vesicle	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	48	

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	ANIMAL ID	002226	000227	000228	000229	000230	000231	000232	000233	000234	000235	000236	000237	000238	000239	000240	000241	000242	000243	000244	000245	000246	000247	

Congestion  
Inflammation, Chronic Active 1 3.0  
2 1 2.0

Testes  
Germinal Epithelium, Degeneration 49 14 1.6

**HEMATOPOIETIC SYSTEM**

Bone Marrow 49

Lymph Node, Bronchial 32

Lymph Node, Mandibular 23

Lymph Node, Mediastinal 34

Lymph Node, Mesenteric Hemorrhage 44 1 4.0

Spleen Infarct 48 1 3.0

Thymus 44

**INTEGUMENTARY SYSTEM**

Mammary Gland 0

Skin Inflammation, Chronic Active 50 1 3.0

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	0729	0660	0770	0774	0475	0773	0669	0772	0551	0771	0776	0677	0776	0777	0777	0575	0777	0777	0777	0676		0666	0666		
ANIMAL ID	002226	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222	000222			
	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

Bronchiole, Epithelium, Erosion																										1	1	4	1.0	
Bronchiole, Epithelium, Hyperplasia	1																										1	2	7	1.3

Nose	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Inflammation, Suppurative	2	1		2		3	1	2		2	2		2	2	1	1		3		2	2		3	1		32	1.9
Olfactory Epithelium, Atrophy	2	1	1	2		3		1	1	1	1	2	1	1	2	1	1	1	1		2	1	1	1		46	1.2
Olfactory Epithelium, Hyperplasia	1		1	1		2		1		1		1	1	1	1			1		1		1				25	1.2
Olfactory Epithelium, Metaplasia, Respiratory	1	1		2		1		2		1		2		2				1		1	2					24	1.3
Olfactory Epithelium, Respiratory Metaplasia, Atypical			2			3				1		3		1	1	1							1			14	2.0
Respiratory Epithelium, Accumulation, Hyaline Droplet				1		2	1		1	1	1	1		1	1	1	1			1	1	1		1		29	1.1
Respiratory Epithelium, Erosion																										1	1.0
Respiratory Epithelium, Hyperplasia	1	1	1	1		1	1	1	1		1	1	1		1	1	1	1		1	1	1	1	1	1	41	1.1
Respiratory Epithelium, Metaplasia, Squamous	1	1	1	1		1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	45	1.0
Respiratory Epithelium, Vacuolization Cytoplasmic	2	1	1			1	1	1		1	1	1		2	1	1		1	1	1			1	1	1	41	1.2
Squamous Epithelium, Erosion																									1	1	1.0
Turbinate, Atrophy	1		1	2		2		1		1	1	1	1		1		2	1	1				2			25	1.3

Trachea	+	+	+	+	A	+	+	+	+	I	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	47	
Epithelium, Vacuolization Cytoplasmic	1	1				2						2		1		1				2		1				14	1.4

**SPECIAL SENSES SYSTEM**

Eye	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	46	
Cornea, Inflammation, Chronic Active						2																				1	2.0
Harderian Gland	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Zymbal's Gland																									+	1	

\* .. 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



<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0730	0729	0731	0674	0731	0671	0673	0673	0636	0662	0666	0612	0673	0677	0629	0667	0672	0672	0633	0699	0670	0662	0677	0677	0677	0677
	ANIMAL ID	0040	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044
<b>2.5 mg/m3</b>		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	

males (cont...)

**ALIMENTARY SYSTEM**

Esophagus Arteriole, Inflammation, Acute	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Gallbladder Degeneration, Hyaline	+	+	M	+	+	M	I	+	+	+	+	+	+	M	M	+	+	I	I	+	A	+	+	M	+		
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Small, Duodenum Ulcer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Small, Ileum Inflammation, Chronic Active	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A	+	+	+	+	+
Liver Basophilic Focus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Clear Cell Focus				X																							
Eosinophilic Focus																											
Fatty Change																											
Hemorrhage																											
Inflammation, Chronic																											
Necrosis																											

\* .. 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





<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0730	0723	0773	0664	0773	0667	0733	0046	0072	0057	0077	0077	0077	0066	0077	0066	0077	0066	0077	0077	0077	0077	0077		
	ANIMAL ID	0040	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004	0004		
<b>2.5 mg/m3</b>		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

males  
(cont...)

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Lymph Node																									
Lymph Node, Bronchial	M	+	+	M	+	M	+	+	+	+	M	M	+	+	M	+	M	M	+	+	M	M	M	+	
Lymph Node, Mandibular	M	+	M	+	M	+	M	+	+	+	+	+	+	M	+	M	+	+	M	+	M	M	M	+	+
Lymph Node, Mediastinal	+	M	+	+	M	+	M	+	+	+	+	+	+	+	+	+	+	+	M	+	M	M	M	+	M
Lymph Node, Mesenteric Hyperplasia, Lymphoid	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Thymus	+	+	M	+	+	M	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	M	+	+	+

**INTEGUMENTARY SYSTEM**

Mammary Gland	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
Skin Inflammation, Chronic Active Metaplasia, Osseous	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

**MUSCULOSKELETAL SYSTEM**

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

\* .. 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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0730	0723	0771	0643	0771	0663	0733	0066	0026	0016	0071	0077	0077	0067	0076	0077	0067	0077	0077	0077	0077
	ANIMAL ID	0040	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044	0044
<b>2.5 mg/m3</b>		12	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2

males (cont...)

Skeletal Muscle

**NERVOUS SYSTEM**

Brain +

**RESPIRATORY SYSTEM**

Larynx +

Inflammation, Suppurative  
 Arteriole, Inflammation, Acute 3  
 Respiratory Epithelium, Metaplasia, Squamous 1  
 Respiratory Epithelium, Vacuolization 1  
 Cytoplasmic  
 Squamous Epithelium, Hyperplasia 1 1

Lung +

Inflammation, Suppurative 1 2 1  
 Proteinosis 3 4 3 3 4 3 3 2 2 2 2 3 3 4 4 3 2 4 3 3 3 3 4 3 2  
 Alveolar/bronchiolar Epithelium, Hyperplasia 2 2 2 1 1 1 2 2 1 2 1 2 1 2 2 1 1 1 2 1 1 1 2 1  
 Alveolar/bronchiolar Epithelium, Vacuolization 3 3 3 2 2 2 2 2 2 2 1 2 2 2 3 2 2 1 2 1 2 2 2 1 2  
 Cytoplasmic  
 Alveolar Epithelium, Hyperplasia 1 1 1 4 1 1 1 1 1 4 1 1 4 1 1  
 Alveolus, Infiltration Cellular, Histiocyte 3 3 3 2 2 2 3 1 3 2 3 3 3 2 2 3 2 3 2 2 2 2 2 3 2  
 Bronchiole, Epithelium, Erosion 1 1 1 2 2  
 Bronchiole, Epithelium, Hyperplasia 1 1 3 1 2 1

Nose +

Inflammation, Suppurative 4 3 4 3 3 3 4 2 3 4 3 4 2 1 4 3 3 2 2 3 3 2 4 2 3  
 Olfactory Epithelium, Atrophy 1 1 1 1 1 2 1 2 1 1 1 1 1 1 1 1 1 2 2 1 2 1  
 Olfactory Epithelium, Hyperplasia 1 1

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:  
 X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate  
 I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked



B6C3F1 MICE MALE 2.5 mg/m3	DAY ON TEST																				ANIMAL ID	males (cont...)				
	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749			0750			
Olfactory Epithelium, Metaplasia, Respiratory	4	3	3	3	3	2	3		2	2	2	1	1	3	3	3	3	4	1	2	3		2	2		
Olfactory Epithelium, Respiratory Metaplasia, Atypical		1					1						1				1						1	1		
Respiratory Epithelium, Accumulation, Hyaline Droplet	1	1	1	1		1			1	1	1				1	1	1		1	1				2		
Respiratory Epithelium, Hyperplasia		1	1	1	1		2						1	1	1	1	1	1	2	1		1	2	1		
Respiratory Epithelium, Metaplasia, Squamous		1		2		1	1		1		1	1			1	1	1	1	2	1	1	1	2	1	1	
Respiratory Epithelium, Vacuolization Cytoplasmic		1	1	1	1	1	1	1	2	2		1		1			1			1	1	1	1	1		
Squamous Epithelium, Erosion					1												1									
Turbinate, Atrophy	3	3	2	3	2	2	3	2	2	2	2	2	2	2	2	3	2	3	2	2	2	3	2	2	2	
Trachea Epithelium, Vacuolization Cytoplasmic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	+	+	+	+	+	
	1	2		1		3	1		1			2		1	2	2	1		1		2	2	2	2	2	
<b>SPECIAL SENSES SYSTEM</b>																										
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+
Cornea, Inflammation, Chronic Active																						A	+	+	+	+
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>URINARY SYSTEM</b>																										
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Infarct																										
Nephropathy	1	1	1	1	1	3	1	2	1	1	1	2	1	1	1	1	2	1	1	2	1	1	1	1	3	
Thrombosis																										
Renal Tubule, Hyperplasia																							3			
Renal Tubule, Necrosis																	2									

\* .. 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

TDMS No. 60311 - 06

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:23:28

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

<b>B6C3F1 MICE MALE</b>	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	
		7	7	7	6	7	6	7	3	4	7	5	7	7	7	6	7	6	7	7	7	6	7	7	7
<b>2.5 mg/m3</b>	ANIMAL ID	3	2	3	4	3	3	3	6	6	2	6	1	3	2	9	2	5	2	2	3	9	2	3	
		0	9	1	7	1	1	1	1	0	9	2	9	0	9	9	9	2	9	9	0	2	9	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	4	4	4	4	4	4	4	4	4	
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2		

males  
(cont...)

Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Transitional Epithelium, Hyperplasia														3											

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+ .. 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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0660	0730	0723	0722	0533	0722	0722	0466	0591	0662	0763	0675	0733	0638	0733	0393	0729	0770	0773	0773	0388	0738	<b>* TOTALS</b>
	ANIMAL ID	00426	00427	00428	00429	00430	00431	00432	00433	00434	00435	00436	00437	00438	00439	00440	00441	00442	00443	00444	00445	00446	00447	

**ALIMENTARY SYSTEM**

Esophagus Arteriole, Inflammation, Acute	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	<b>1 3.0</b>	
Gallbladder Degeneration, Hyaline	+	+	+	+	A	M	I	+	A	+	+	+	A	+	+	+	+	+	+	A	+	+	A	34	<b>1 3.0</b>	
Intestine Large, Cecum	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	A	44	
Intestine Large, Colon	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	A	45	
Intestine Large, Rectum	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	A	+	+	A	45	
Intestine Small, Duodenum Ulcer	+	+	+	+	A	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	A	+	+	A	44	<b>1 4.0</b>
Intestine Small, Ileum Inflammation, Chronic Active	+	+	+	+	A	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	A	+	+	A	43	<b>1 3.0</b>
Intestine Small, Jejunum	+	+	+	+	A	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	A	+	+	A	43	
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Basophilic Focus						X											X				X			6		
Clear Cell Focus							X					X									X			8		
Eosinophilic Focus	X						X														X			4		
Fatty Change									2															1	<b>2.0</b>	
Hemorrhage																								1	<b>3.0</b>	
Inflammation, Chronic						2																		1	<b>2.0</b>	
Necrosis																								1	<b>2.0</b>	

\* .. 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

B6C3F1 MICE MALE 2.5 mg/m3	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	* TOTALS
	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	
	6	7	7	7	5	7	7	4	5	6	6	7	6	7	6	7	6	7	3	7	7	7	3	8	
Tension Lipidosis		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2 1.5
Mesentery Fat, Necrosis						+			+											+				5	5 2.0
Pancreas Atrophy																								50	1 2.0
Salivary Glands																								50	
Stomach, Forestomach Hyperplasia, Squamous Ulcer																								50	2 2.0 3 2.3
Stomach, Glandular Necrosis Arteriole, Inflammation, Acute						A																	A	48	1 2.0 1 3.0
Tooth Dysplasia																								2	2 3.5
<b>CARDIOVASCULAR SYSTEM</b>																									
Heart Cardiomyopathy Necrosis																								50	12 1.0 1 3.0
<b>ENDOCRINE SYSTEM</b>																									
Adrenal Cortex Hyperplasia																								50	2 2.0

\* .. 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

B6C3F1 MICE MALE 2.5 mg/m3	DAY ON TEST																				* TOTALS					
	0660	0730	0723	0729	0573	0772	0779	0446	0559	0661	0667	0762	0765	0773	0676	0773	0373	0379	0736	0771		0773	0378	0382		
ANIMAL ID	00426	00442	00442	00442	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00445			
Hypertrophy	2						2						2	2	2				2					12 2.0		
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Parathyroid Gland	M	+	M	+	M	M	+	+	M	M	+	+	+	M	+	M	+	+	+	+	M	+	+	M	+	26
Pituitary Gland Pars Distalis, Hyperplasia	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	A	48	1 2.0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
<b>GENERAL BODY SYSTEM</b>																										
NONE																										
<b>GENITAL SYSTEM</b>																										
Epididymis Granuloma Sperm	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	1 2.0
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	49	
Prostate	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	48	
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Testes Germinal Epithelium, Degeneration	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	8 1.6

\* .. 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

<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0660	0730	0723	0722	0533	0722	0722	0466	0591	0623	0675	0673	0733	0733	0683	0733	0379	0720	0703	0733	0773	0773	0388	0382	<b>* TOTALS</b>
	ANIMAL ID	00426	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	00442	

**HEMATOPOIETIC SYSTEM**

Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Lymph Node																											1
Lymph Node, Bronchial	M	M	M	+	M	M	M	M	M	M	+	M	+	M	M	M	M	M	+	+	+	M	+	M		20	
Lymph Node, Mandibular	M	+	M	M	+	+	M	M	+	+	+	+	M	+	M	M	M	M	+	+	+	+	M	M		27	
Lymph Node, Mediastinal	+	+	+	+	M	+	+	+	A	+	+	+	+	M	+	+	+	+	+	+	M	+	+	M	M		36
Lymph Node, Mesenteric Hyperplasia, Lymphoid	+	M	+	+	M	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	A	+	+	A		44	
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	49
Thymus	+	+	M	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	M	+	+	+	M	+	I	40

1 1.0

**INTEGUMENTARY SYSTEM**

Mammary Gland	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	0
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Inflammation, Chronic Active																											2
Metaplasia, Osseous																											3
																											2 3.0
																											1 2.0

**MUSCULOSKELETAL SYSTEM**

Bone	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----

\* .. 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

B6C3F1 MICE 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
6	7	7	7	5	7	7	4	5	6	6	7	6	7	7	6	7	7	3	7	7	7	3	
6	3	2	2	3	2	2	6	9	1	2	3	5	3	3	8	3	3	9	3	2	0	3	
0	0	0	3	9	3	9	9	0	7	7	7	0	0	0	3	0	1	4	0	9	6	1	
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
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	
6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	
																						<b>* TOTALS</b>	

Skeletal Muscle + 3

**NERVOUS SYSTEM**

Brain + 50

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	I	<b>49</b>
Inflammation, Suppurative												1									1			<b>2 1.0</b>
Arteriole, Inflammation, Acute																								<b>1 3.0</b>
Respiratory Epithelium, Metaplasia, Squamous	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<b>49 1.0</b>
Respiratory Epithelium, Vacuolization Cytoplasmic		1	1						1		1	1		1	1		1			1		1		<b>24 1.0</b>
Squamous Epithelium, Hyperplasia												1										1		<b>5 1.0</b>
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Inflammation, Suppurative					1				2															<b>6 1.5</b>
Proteinosis	3	3	4	4	4	3	3	4	2	3	3	3	2	3	3	3	4	4	4	2	4	4	3	<b>49 3.1</b>
Alveolar/bronchiolar Epithelium, Hyperplasia	1	1	3	1	1	2	2	2	1	3	2	2	1	1	1	1	2	2	1	2	2	2	2	<b>49 1.6</b>
Alveolar/bronchiolar Epithelium, Vacuolization Cytoplasmic	1	2	3	2	1	2	2	1	1	1		2	2	2	2	3	2	1	2	2	3	2	2	<b>47 1.9</b>
Alveolar Epithelium, Hyperplasia	1					1	2					1		2	1		1	4		3	1		4	<b>24 1.8</b>
Alveolus, Infiltration Cellular, Histiocyte	4	2	4	4	4	2	2	3	1	4		2	3	2	2	2	2	4	2	2	4	2	2	<b>48 2.5</b>
Bronchiole, Epithelium, Erosion	3								1	1									1			1		<b>10 1.3</b>
Bronchiole, Epithelium, Hyperplasia				1				1											1					<b>9 1.3</b>
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>50</b>
Inflammation, Suppurative	1	3	2	2		3	2	2	2	1	3	4	3	3	3	2	3	3	2	3	3	4	3	<b>49 2.7</b>
Olfactory Epithelium, Atrophy	1		1	1		1	1			1	1	1	1	2	2	1	2	1	1	1	1	1	1	<b>42 1.2</b>
Olfactory Epithelium, Hyperplasia	1		1			1	1						1	1	1	1	1		1	1		1	1	<b>17 1.0</b>

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:  
X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate  
I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

B6C3F1 MICE MALE 2.5 mg/m3	DAY ON TEST																								* TOTALS		
	0660	0730	0723	0722	0733	0729	0722	0726	0709	0707	0706	0706	0707	0706	0707	0706	0707	0703	0707	0707	0707	0703	0703				
ANIMAL ID	00426	00447	00448	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444	00444				
Olfactory Epithelium, Metaplasia, Respiratory	1	3	2	3		1	1	2	3	2	3	3	3	1	3	1	1	3	1	2		2	3	1	44	2.3	
Olfactory Epithelium, Respiratory Metaplasia, Atypical									1										2				1		9	1.1	
Respiratory Epithelium, Accumulation, Hyaline Droplet		1				1		1	1	1	1	1	2	1	1	1			1		1		2	2	29	1.1	
Respiratory Epithelium, Hyperplasia	1		1	1	1	1	2				2	1	2	1	1	1	1	1	1	1	1	1	2	1	36	1.2	
Respiratory Epithelium, Metaplasia, Squamous	1	1	1	1		1	1	1			1	1			1	1		1	1	1		1	1	1	35	1.1	
Respiratory Epithelium, Vacuolization Cytoplasmic	1	2	1			1	1	1	1	1	1	1	1	2	1	1	1	1	2	1		1	1	1	2	39	1.2
Squamous Epithelium, Erosion Turbinate, Atrophy	1	2	1	3	2	3	2	2	2	2	2	3	2	2	2	1	2	2	1	1	2	2	1	2	49	2.1	
Trachea Epithelium, Vacuolization Cytoplasmic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	48		
		1	2	1			2					2	1			1	2	1	2		2	2	2	2	31	1.6	
<b>SPECIAL SENSES SYSTEM</b>																											
Eye	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	A	+	+	+	+	+	+	A	43		
Cornea, Inflammation, Chronic Active																							1		1	1.0	
Harderian Gland	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	48		
<b>URINARY SYSTEM</b>																											
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	49		
Infarct																						3			1	3.0	
Nephropathy	1	1	1	1		1	1				1				1	1	1	1	3	1	1	1	2	1	42	1.3	
Thrombosis																						2			1	2.0	
Renal Tubule, Hyperplasia																									1	3.0	
Renal Tubule, Necrosis																									1	2.0	

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 2) Mild 4) Marked



TDMS No. 60311 - 06

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:23:28

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

B6C3F1 MICE MALE 2.5 mg/m3	DAY ON TEST	ANIMAL ID																				* TOTALS					
		060	070	073	077	079	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095		096	097	098	099	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		6	7	7	7	5	7	7	4	5	6	6	7	6	7	6	7	6	7	3	7	7	7	7	3		
		6	3	2	2	3	2	2	6	9	1	2	3	5	3	3	8	3	3	9	3	2	0	3	3		
		0	0	3	9	3	9	9	0	7	7	7	0	2	0	0	3	0	1	4	0	9	6	1	0	2	
		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	4	4	4	4	4	4	4	4	4	4		
		2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5		
		6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9		
																									<b>50</b>		
Urinary Bladder Transitional Epithelium, Hyperplasia		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	<b>1 3.0</b>	

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<b>B6C3F1 MICE MALE</b>	DAY ON TEST	0730	0722	0722	0671	0739	0655	0771	0777	0777	0777	0575	0777	0777	0423	0552	0557	0700	0477	0722	0699	0773	0773	<b>males (cont...)</b>
	ANIMAL ID	0060	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	

**ALIMENTARY SYSTEM**

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Gallbladder	+	+	+	+	+	+	+	+	+	A	+	+	+	M	M	+	+	+	A	A	I	+	M	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	A	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+	A	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+	A	+	+
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	A	+	A	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Angiectasis																								
Basophilic Focus				X																				
Eosinophilic Focus																								X
Hepatodiaphragmatic Nodule																								
Necrosis															X							X		
Mesentery																								
Fat, Necrosis																								
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Atrophy																								

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B6C3F1 MICE 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
		7	7	7	6	7	6	5	7	7	7	7	5	7	7	7	4	5	5	7	4	7	6	7	7	3	3	3	3
5.0 mg/m3	ANIMAL ID	3	2	2	1	3	9	5	1	2	3	0	3	8	3	3	2	3	7	0	7	2	9	3	3	0	0	0	0
		0	9	9	8	0	8	4	6	9	1	6	1	6	1	0	0	5	7	5	8	6	9	1	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
		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5			
		<b>males (cont...)</b>																											

Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Forestomach Hyperplasia, Squamous Inflammation, Chronic Active Ulcer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
																						2						
Stomach, Glandular Ulcer	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+
Tooth Dysplasia																												

**CARDIOVASCULAR SYSTEM**

Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cardiomyopathy																												
Hemorrhage																												
Pericardium, Inflammation, Chronic																												

**ENDOCRINE SYSTEM**

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia																												
Hypertrophy																												
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia																												

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TDMS No. 60311 - 06

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Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:23:28

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

<b>B6C3F1 MICE MALE</b>	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
		7	7	7	6	7	6	5	7	7	7	7	5	7	7	7	4	5	5	7	4	7	6	7	7	7
		3	2	2	1	3	9	5	1	2	3	0	3	8	3	3	3	2	3	7	0	7	2	9	3	3
<b>5.0 mg/m3</b>	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	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	6	6	6	6	6	6	6	6	6	6

males (cont...)

Parathyroid Gland M + + M + M + + M M M M + M + + + + + + M + + M M

Pituitary Gland + + + + + + + + + + + + + + M + + + M + + + + + +

Thyroid Gland + + + + + + + + + + + I + + + + + + + + + + + + +

GENERAL BODY SYSTEM

Tissue NOS

GENITAL SYSTEM

Coagulating Gland +

Epididymis +

Penis Inflammation, Acute

Preputial Gland +

Prostate +

Seminal Vesicle Inflammation, Chronic Active + 3

Testes Germinal Epithelium, Degeneration Interstitial Cell, Hyperplasia + 1 1 1 2 3 2 1 2 2 2 1 1

HEMATOPOIETIC SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
+ .. Tissue examined microscopically M .. Missing tissue
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B6C3F1 MICE MALE 5.0 mg/m3	DAY ON TEST	0730	0722	0779	0668	0770	0664	0575	0771	0777	0777	0777	0575	0777	0777	0474	0575	0575	0770	0474	0772	0669	0776	0777	0373	0773	ANIMAL ID	males (cont...)	
	ANIMAL ID	0060	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066	0066			0066
Bone Marrow Angiectasis Thrombosis		+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
Lymph Node																													
Lymph Node, Bronchial		+	+	+	M	+	M	M	+	M	+	M	+	M	M	M	+	M	+	M	+	+	+	M	+	+			
Lymph Node, Mandibular		+	+	+	+	M	M	M	M	+	+	+	+	+	+	+	M	M	+	M	+	M	M	+	+	+			
Lymph Node, Mediastinal Hyperplasia, Lymphoid		M	+	M	+	+	+	+	+	+	M	M	+	+	+	+	M	+	+	+	+	+	+	+	+	+			
Lymph Node, Mesenteric Arteriole, Inflammation, Chronic Active		+	+	+	M	+	+	+	M	M	+	+	+	+	+	+	+	+	+	+	M	+	A	+	+	+			
Spleen		+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+			
Thymus		+	+	+	M	+	M	+	+	+	+	+	+	+	M	M	+	+	+	M	+	+	+	+	+	+			
<b>INTEGUMENTARY SYSTEM</b>																													
Mammary Gland		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			
Skin Inflammation, Chronic Active		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			
																												4	
<b>MUSCULOSKELETAL SYSTEM</b>																													
Bone		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			

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1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
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<b>B6C3F1 MICE MALE</b>	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		
		7	7	7	6	7	6	5	7	7	7	7	5	7	7	7	4	5	5	7	4	7	6	7	7	
<b>5.0 mg/m3</b>		3	2	2	1	3	9	5	1	2	3	0	3	8	3	3	2	3	7	0	7	2	9	3	3	
		0	9	9	8	0	8	4	6	9	1	6	1	6	1	0	0	5	7	5	8	6	9	3	0	
	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	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	6	6	6	6	6	6	6	6	6	
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

males  
(cont...)

Skeletal Muscle

+

**NERVOUS SYSTEM**

Brain

+ +

Peripheral Nerve

Spinal Cord

**RESPIRATORY SYSTEM**

Larynx

+ +

Inflammation, Suppurative

1

Respiratory Epithelium, Erosion

Respiratory Epithelium, Metaplasia, Squamous

1 1

Respiratory Epithelium, Vacuolization  
Cytoplasmic

1 2 1

Squamous Epithelium, Erosion

1

Squamous Epithelium, Hyperplasia

1

1

1 1 1

Lung

+ +

Inflammation, Suppurative

2 1

3

1

1

1

1

1

1

1

1

Proteinosis

4 4

Alveolar/bronchiolar Epithelium, Hyperplasia

3 3 3 3 3 3 2 3 3 3 1 3 3 2 3 2 3 2 3 2 2 1 2 2 1

Alveolar/bronchiolar Epithelium, Vacuolization  
Cytoplasmic

4 3 4 4 4 4 1 3 3 3 3 3 2 3 3 4 3 2 2 1 2 3 4 3

Alveolar Epithelium, Hyperplasia

4 4 1 1 2 2 2 2 1 2 2 1 2 1 3 2 2 4 1 3 4 3 2

Alveolus, Infiltration Cellular, Histiocyte

3 3 2 3 3 3 4 4 3 2 3 3 3 3 3 4 3 3 2 4 4 3 3

Bronchiole, Epithelium, Erosion

1

\* .. 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

| B6C3F1 MICE MALE<br>5.0 mg/m3                                   | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | ANIMAL ID | males<br>(cont...) |                  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|--------------------|------------------|
|   | 0<br>7<br>3<br>0 | 0<br>7<br>2<br>9 | 0<br>7<br>2<br>9 | 0<br>6<br>1<br>8 | 0<br>7<br>3<br>0 | 0<br>6<br>9<br>8 | 0<br>5<br>5<br>4 | 0<br>7<br>1<br>6 | 0<br>7<br>2<br>1 | 0<br>7<br>3<br>0 | 0<br>7<br>0<br>3 | 0<br>7<br>8<br>3 | 0<br>5<br>3<br>1 | 0<br>7<br>3<br>3 | 0<br>7<br>2<br>0 | 0<br>4<br>3<br>5 | 0<br>5<br>7<br>5 | 0<br>7<br>0<br>8 | 0<br>4<br>7<br>6 | 0<br>7<br>2<br>9 |           |                    | 0<br>6<br>9<br>1 |
| Bronchiole, Epithelium, Hyperplasia                             | 2                | 2                | 3                |                  |                  | 1                |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  | 2                |                  |                  | 1         |                    |                  |
| Nose  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                  | +                |
| Inflammation, Suppurative                                       | 4                | 3                | 2                | 3                | 3                | 3                | 3                | 2                | 3                | 3                | 2                | 4                | 4                | 4                | 3                | 2                | 3                | 2                | 4                | 4                | 3         | 3                  | 3                |
| Olfactory Epithelium, Atrophy                                   |                  |                  | 1                | 1                |                  |                  | 1                | 1                |                  |                  |                  | 1                | 3                | 1                |                  | 1                | 2                | 2                | 2                |                  | 1         | 1                  |                  |
| Olfactory Epithelium, Hyperplasia                               |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  | 1                |                  |                  | 1                |                  |                  |                  |           |                    |                  |
| Olfactory Epithelium, Metaplasia, Respiratory                   | 3                | 3                | 3                | 3                | 4                | 4                | 3                | 3                | 4                | 3                | 4                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 4                | 3                | 3         | 4                  | 4                |
| Olfactory Epithelium, Respiratory Metaplasia, Atypical          |                  |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                    |                  |
| Respiratory Epithelium, Accumulation, Hyaline Droplet           |                  |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  | 1                |                  | 1                |                  |                  |                  |                  |           |                    |                  |
| Respiratory Epithelium, Hyperplasia                             |                  | 1                | 1                | 1                |                  |                  | 1                |                  | 1                |                  | 1                |                  |                  |                  |                  |                  |                  | 1                |                  | 1                |           | 1                  | 1                |
| Respiratory Epithelium, Metaplasia, Squamous                    | 1                | 1                | 2                |                  | 1                |                  | 2                |                  |                  | 1                |                  | 1                |                  |                  |                  | 1                | 1                | 2                |                  | 1                |           |                    | 1                |
| Respiratory Epithelium, Vacuolization Cytoplasmic               | 1                | 2                | 1                | 1                | 1                | 1                | 2                | 3                |                  | 2                |                  | 2                |                  | 1                | 2                |                  | 1                | 2                | 1                |                  | 1         | 1                  | 1                |
| Turbinate, Atrophy  | 4                | 3                | 4                | 3                | 3                | 4                | 3                | 4                | 4                | 3                | 4                | 3                | 3                | 3                | 4                | 3                | 3                | 3                | 3                | 3                | 2         | 3                  | 3                |
| Trachea   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                  | +                |
| Inflammation, Suppurative Epithelium, Vacuolization Cytoplasmic |                  | 2                | 2                |                  | 1                | 2                |                  | 1                | 1                | 1                | 2                | 1                | 1                | 1                | 2                | 1                |                  | 1                | 2                |                  | 1         | 2                  | 1                |
| <b>SPECIAL SENSES SYSTEM</b>                                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                    |                  |
| Eye   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | A                | +                | +                | +                | +                | +                | +                | +                | +                | A                | +         | +                  | A                |
| Cataract  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                    |                  |
| Harderian Gland   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                  | +                |
| Hyperplasia   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                    | 2                |
| <b>URINARY SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                    |                  |

\* .. 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

| B6C3F1 MICE MALE                        | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | males<br>(cont...) |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
|   | 0730        | 0772 | 0779 | 0661 | 0673 | 0668 | 0557 | 0577 | 0577 | 0577 | 0577 | 0557 | 0777 | 0777 | 0777 | 0447 | 0557 | 0557 | 0777 | 0447 | 0777 | 0667 | 0777 | 0777 |      |           |                    |
| 5.0 mg/m3                               | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |      |           |                    |
|   | 6601        | 6602 | 6603 | 6604 | 6605 | 6606 | 6607 | 6608 | 6609 | 6610 | 6611 | 6612 | 6613 | 6614 | 6615 | 6616 | 6617 | 6618 | 6619 | 6620 | 6621 | 6622 | 6623 | 6624 | 6625 |           |                    |
| Kidney                                  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |      |           |                    |
| Infarct                                 |             |      |      |      |      | 2    |      |      |      |      |      | 2    |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Nephropathy                             | 1           | 1    | 1    | 1    |      | 1    |      | 1    | 1    | 1    | 1    |      | 1    | 1    | 1    | 1    |      |      |      |      | 1    | 1    | 1    | 1    |      |           |                    |
| Arteriole, Inflammation, Chronic Active |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Renal Tubule, Hyperplasia               |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Urinary Bladder                         | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |      |           |                    |
| Hemorrhage                              |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Arteriole, Inflammation, Chronic Active |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |

\* .. 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

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked





| B6C3F1 MICE 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   | ANIMAL ID | * TOTALS |
|------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----------|----------|
|                                    |             | 5 | 6 | 7 | 6 | 6 | 7 | 6 | 6 | 7 | 5 | 7 | 7 | 7 | 2 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 5 | 6  |     |           |          |
| 5.0 mg/m3                          |             | 7 | 8 | 3 | 1 | 9 | 2 | 4 | 6 | 2 | 9 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 1 | 8 | 6 | 7  | 0   |           |          |
|                                    |             | 1 | 1 | 1 | 7 | 1 | 9 | 9 | 0 | 0 | 3 | 0 | 1 | 1 | 7 | 1 | 0 | 5 | 0 | 0 | 2 | 6 | 2 | 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   |           |          |
|                                    |             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6  | 6   |           |          |
|                                    | 2           | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5  |     |           |          |
|                                    | 6           | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  |     |           |          |
|                                    |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |     |           |          |
| Salivary Glands                    |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |     |           |          |
| Stomach, Forestomach               |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |     |           |          |
| Hyperplasia, Squamous              |             |   |   |   | 3 |   |   | 2 | 3 |   |   |   |   |   |   |   |   |   |   |   | 3 |   |   | 4  | 2.8 |           |          |
| Inflammation, Chronic Active       |             |   |   |   | 2 |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3  | 2.0 |           |          |
| Ulcer                              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3 |   | 1  | 3.0 |           |          |
| Stomach, Glandular                 |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |     |           |          |
| Ulcer                              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3 |   |   | 1  | 3.0 |           |          |
| Tooth                              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  |     |           |          |
| Dysplasia                          |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4 |   |   | 1  | 4.0 |           |          |
| <b>CARDIOVASCULAR SYSTEM</b>       |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |     |           |          |
| Heart                              |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |     |           |          |
| Cardiomyopathy                     |             |   |   |   |   |   |   | 1 |   | 1 |   | 1 |   | 1 |   |   |   |   | 2 |   |   |   |   | 8  | 1.3 |           |          |
| Hemorrhage                         |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  | 3.0 |           |          |
| Pericardium, Inflammation, Chronic |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1  | 2.0 |           |          |
| <b>ENDOCRINE SYSTEM</b>            |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |     |           |          |
| Adrenal Cortex                     |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |     |           |          |
| Hyperplasia                        |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   | 1  | 2.0 |           |          |
| Hypertrophy                        |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  | 2.0 |           |          |
| Adrenal Medulla                    |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | 48 |     |           |          |
| Islets, Pancreatic                 |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |     |           |          |
| Hyperplasia                        |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2  | 2.5 |           |          |

\* .. 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



TDMS No. 60311 - 06

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 09/08/2011

Time Report Requested: 08:23:28

First Dose M/F: 05/15/06 / 05/15/06

Lab: BNW

| B6C3F1 MICE MALE<br>5.0 mg/m3                                     | DAY ON TEST |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | * TOTALS |   |       |       |       |    |
|---|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---|-------|-------|-------|----|
|   | 057100626   | 068319249 | 076672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 | 066672990 |          |   |       |       |       |    |
| ANIMAL ID   | 00626       | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666     | 00666    |   |       |       |       |    |
| Bone Marrow   | +           | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +        | + | 49    |       |       |    |
| Angiectasis   |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 2         |          |   | 1 2.0 |       |       |    |
| Thrombosis  |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |   | 1 2.0 |       |       |    |
| Lymph Node  |             |           |           |           |           |           |           |           |           |           |           |           | +         |           |           |           |           |           |           |           |          |   | 1     |       |       |    |
| Lymph Node, Bronchial   | +           | M         | M         | +         | +         | M         | M         | M         | +         | +         | M         | +         | +         | M         | +         | +         | M         | M         | M         | M         | M        | + | M     | +     | 24    |    |
| Lymph Node, Mandibular  | M           | +         | +         | +         | +         | +         | +         | M         | +         | +         | +         | +         | +         | +         | +         | +         | M         | +         | +         | +         | +        | + | +     | M     | 37    |    |
| Lymph Node, Mediastinal<br>Hyperplasia, Lymphoid                  | +           | +         | +         | +         | +         | +         | +         | M         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | 2        | + | +     | +     | 44    |    |
| 1 2.0   |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |   |       | 1 2.0 |       |    |
| Lymph Node, Mesenteric<br>Arteriole, Inflammation, Chronic Active | +           | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | A         | M         | +         | +        | + | +     | M     | 42    |    |
| 1 4.0   |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 4         |          |   |       | 1 4.0 |       |    |
| Spleen  | +           | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +        | + | +     | +     | 48    |    |
| Thymus  | +           | +         | +         | M         | +         | +         | M         | +         | M         | +         | M         | +         | +         | +         | +         | +         | +         | M         | +         | +         | +        | M | +     | +     | M     | 38 |
| <b>INTEGUMENTARY SYSTEM</b>                                       |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |   |       |       |       |    |
| Mammary Gland   | 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     | 0  |
| Skin  | +           | +         | +         | +         | +         | +         | +         | +         | M         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +        | + | +     | +     | +     | 49 |
| Inflammation, Chronic Active                                      |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          | 4 |       |       | 2 4.0 |    |
| <b>MUSCULOSKELETAL SYSTEM</b>                                     |             |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |   |       |       |       |    |
| Bone  | +           | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +         | +        | + | +     | +     | +     | 50 |

\* .. 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



| B6C3F1 MICE MALE                                       | DAY ON TEST |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              | * TOTALS |    |     |    |     |     |     |
|--|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|----|-----|----|-----|-----|-----|
|  | 05711000626 | 068316766227 | 073192266333 | 081999003333 | 090299003333 | 100666666666 | 110753333333 | 120879333333 | 130963333333 | 140053333333 | 150143333333 | 160233333333 | 170323333333 | 180413333333 | 190503333333 | 200603333333 | 210703333333 | 220803333333 | 230903333333 | 240003333333 |          |    |     |    |     |     |     |
| 5.0 mg/m3  | ANIMAL ID   |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     |    |     |     |     |
|  | 00626       | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662        | 00662    |    |     |    |     |     |     |
| Bronchiole, Epithelium, Hyperplasia                    | 1           |              |              | 1            |              |              |              |              |              |              |              |              |              | 1            |              |              |              |              |              |              |          | 11 | 1.5 |    |     |     |     |
| Nose   | +           | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +        | 50 |     |    |     |     |     |
| Inflammation, Suppurative                              | 3           | 1            | 3            | 3            | 3            | 3            | 4            | 4            | 4            | 3            | 4            | 3            | 4            | 3            | 3            | 4            | 3            | 3            | 3            | 3            | 4        | 3  | 3   | 50 | 3.1 |     |     |
| Olfactory Epithelium, Atrophy                          | 1           |              | 1            | 1            |              | 2            | 1            |              | 1            | 1            |              | 1            | 1            | 1            | 1            |              |              |              | 1            | 1            |          | 1  | 1   | 31 | 1.2 |     |     |
| Olfactory Epithelium, Hyperplasia                      | 2           |              |              |              |              |              |              |              |              | 1            |              |              |              | 1            | 1            |              |              |              |              |              |          |    | 1   | 8  | 1.1 |     |     |
| Olfactory Epithelium, Metaplasia, Respiratory          | 3           | 2            | 2            | 3            | 4            | 3            | 3            | 3            | 4            | 2            | 4            | 2            | 3            | 2            | 3            | 3            | 3            | 3            | 4            | 3            | 3        | 4  | 2   | 3  | 2   | 50  | 3.1 |
| Olfactory Epithelium, Respiratory Metaplasia, Atypical |             |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     | 1  | 1.0 |     |     |
| Respiratory Epithelium, Accumulation, Hyaline Droplet  |             |              |              |              |              |              | 1            | 1            |              |              |              |              |              |              |              |              | 1            |              |              |              |          | 1  |     | 7  | 1.0 |     |     |
| Respiratory Epithelium, Hyperplasia                    | 1           |              |              |              |              | 1            |              |              |              |              | 1            | 1            | 1            |              |              |              |              |              | 1            | 1            |          | 1  |     | 19 | 1.0 |     |     |
| Respiratory Epithelium, Metaplasia, Squamous           | 2           | 1            |              | 1            | 1            | 1            |              | 1            | 1            | 1            | 1            | 1            | 1            |              | 1            | 1            | 1            | 1            | 1            | 2            | 1        | 1  | 1   | 33 | 1.2 |     |     |
| Respiratory Epithelium, Vacuolization Cytoplasmic      |             |              | 1            |              | 1            | 1            |              | 1            |              | 1            | 1            | 1            | 2            | 2            | 1            | 1            | 2            | 2            | 1            |              | 1        |    | 2   | 1  | 1   | 37  | 1.4 |
| Turbinate, Atrophy                                     | 3           | 2            | 4            | 4            | 3            | 3            | 3            | 3            | 3            | 3            | 4            | 4            | 3            | 1            | 3            | 4            | 4            | 2            | 4            | 3            | 4        | 4  | 3   | 4  | 3   | 50  | 3.3 |
| Trachea  | +           | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +        | +  | +   | 50 |     |     |     |
| Inflammation, Suppurative                              |             |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     | 1  | 1   | 1.0 |     |
| Epithelium, Vacuolization Cytoplasmic                  | 1           |              |              |              | 2            | 2            |              | 2            | 1            |              | 1            | 2            | 2            | 1            | 1            | 1            | 1            | 1            | 2            | 2            | 1        | 2  | 1   |    | 37  | 1.4 |     |
| <b>SPECIAL SENSES SYSTEM</b>                           |             |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     |    |     |     |     |
| Eye  | +           | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +        | +  | +   | 45 |     |     |     |
| Cataract   |             | 2            |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     | 1  | 2.0 |     |     |
| Harderian Gland  | +           | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +            | +        | +  | +   | 50 |     |     |     |
| Hyperplasia  |             |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    | 1   | 2  | 1.5 |     |     |
| <b>URINARY SYSTEM</b>                                  |             |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |          |    |     |    |     |     |     |

\* .. 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

| B6C3F1 MICE MALE                        | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|   | 0571        | 0683  | 0795  | 0807  | 0919  | 1021  | 1133  | 1245  | 1357  | 1469  | 1581  | 1693  | 1805  | 1917  | 2029  | 2141  | 2253  | 2365  | 2477  | 2589  | 2701  | 2813  |          |
| 5.0 mg/m3                               | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |
|   | 00626       | 00662 | 00678 | 00694 | 00710 | 00726 | 00742 | 00758 | 00774 | 00790 | 00806 | 00822 | 00838 | 00854 | 00870 | 00886 | 00902 | 00918 | 00934 | 00950 | 00966 | 00982 |          |
|   | 00000       | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 | 00000 |          |
|   | 66267       | 66667 | 66768 | 66969 | 67170 | 67271 | 67472 | 67573 | 67774 | 67875 | 68076 | 68177 | 68378 | 68479 | 68680 | 68781 | 68982 | 69083 | 69284 | 69385 | 69586 | 69687 |          |
| Kidney                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |
| Infarct                                 |             |       |       |       |       |       |       |       |       |       |       | 3     |       |       |       |       |       |       |       |       |       |       | 3 2.3    |
| Nephropathy                             | 1           |       | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     |       | 1     |       | 1     | 1     | 1     | 3     |       | 1     |       | 37 1.1   |
| Arteriole, Inflammation, Chronic Active |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3     |       |       |       | 1 3.0    |
| Renal Tubule, Hyperplasia               |             |       |       |       |       |       |       |       |       |       |       |       | 2     |       |       |       |       |       |       |       |       |       | 1 2.0    |
| Urinary Bladder                         | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 47       |
| Hemorrhage                              |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3     |       |       |       | 1 3.0    |
| Arteriole, Inflammation, Chronic Active |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3     |       |       |       | 1 3.0    |

\*\*\* 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

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|                           |                |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                              |  |
|---------------------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|--|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST    | 0<br>7                | 0<br>7                | 0<br>3                | 0<br>6                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>6                | 0<br>4                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>5                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>6                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>6                       |  |
|                           | <b>control</b> | 3                     | 3                     | 8                     | 4                     | 3                     | 3                     | 3                     | 9                     | 9                     | 3                     | 3                     | 3                     | 3                     | 9                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 3                     | 4                            |  |
|                           | ANIMAL ID      | 0<br>0<br>1<br>0<br>1 | 0<br>0<br>1<br>0<br>2 | 0<br>0<br>1<br>0<br>3 | 0<br>0<br>1<br>0<br>4 | 0<br>0<br>1<br>0<br>5 | 0<br>0<br>1<br>0<br>6 | 0<br>0<br>1<br>0<br>7 | 0<br>0<br>1<br>0<br>8 | 0<br>0<br>1<br>0<br>9 | 0<br>0<br>1<br>1<br>0 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | <b>females<br/>(cont...)</b> |  |
|                           |                | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     | 8                     | 9                     | 0                     | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     | 8                     | 9                     | 0                     | 1                     | 2                     | 3                     | 4                     | 5                     |                       |                              |  |

**ALIMENTARY SYSTEM**

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder                          | + | + | + | + | + | + | A | M | M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum<br>Hemorrhage | + | + | M | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon               | + | + | A | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum              | + | + | M | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum            | + | + | A | + | + | + | + | A | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum               | + | + | A | + | + | + | + | A | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum             | + | + | A | + | + | + | + | A | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Basophilic Focus                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Clear Cell Focus                     |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Eosinophilic Focus                   | X |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Hematopoietic Cell Proliferation     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Necrosis                             |   |   |   | 2 |   |   |   |   | 2 | 3 |   |   |   |   |   | 3 |   |   |   |   |   |   |   |   |   |   |   |   |
| Tension Lipidosis                    |   | 1 |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2 |   |
| Vacuolization Cytoplasmic            |   |   |   |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Mesentery                            |   |   |   | + |   | + |   |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fat, Hemorrhage                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

\* .. 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:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked



| B6C3F1 MICE FEMALE<br>control | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | females<br>(cont...) |
|-------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|
|                               | 0732        | 0733 | 0738 | 0734 | 0733 | 0733 | 0739 | 0739 | 0731 | 0732 | 0733 | 0733 | 0731 | 0739 | 0733 | 0733 | 0733 | 0732 | 0733 | 0732 | 0731 | 0731 | 0733 | 0732 | 0739 |                      |
| ANIMAL ID                     | 0010        | 0011 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036                 |
| Fat, Necrosis                 |             |      | 2    |      | 2    |      |      |      |      | 2    |      |      |      | 2    |      |      | 2    | 2    | 2    |      |      | 2    |      |      |      |                      |
| Pancreas Atrophy              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Salivary Glands               | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Stomach, Forestomach Ulcer    | +           | +    | +    | +    | +    | +    | +    | +    | 1    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Stomach, Glandular Ulcer      | +           | +    | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| <b>CARDIOVASCULAR SYSTEM</b>  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Heart                         | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Cardiomyopathy                |             |      |      |      | 1    | 1    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2    |                      |
| Mineralization                |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Thrombosis                    |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Capillary, Hyperplasia        |             |      | 3    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| <b>ENDOCRINE SYSTEM</b>       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Adrenal Cortex                | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Hyperplasia                   |             |      |      | 2    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                      |
| Adrenal Medulla               | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |
| Hyperplasia                   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2    |      |      |      |                      |
| Islets, Pancreatic            | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |                      |

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| B6C3F1 MICE FEMALE<br>control | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |                       | ANIMAL ID | females<br>(cont...) |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------------------|-----------|----------------------|
|                               | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>3<br>8<br>3 | 0<br>6<br>4<br>9 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>2 | 0<br>6<br>9<br>7 | 0<br>4<br>9<br>1 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>5<br>9<br>9 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 |   |                       |           |                      |
|                               | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0 | 0<br>0<br>1<br>0<br>1 |           |                      |

|                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parathyroid Gland          | + | M | M | + | M | + | M | + | M | + | M | M | + | M | M | M | + | M | + | M | M | + | + | + | + |
| Pituitary Gland            | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + |
| Pars Distalis, Angiectasis |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 |   |   |
| Pars Distalis, Hyperplasia |   |   |   |   |   |   | 1 |   | 2 | 2 |   |   |   |   | 2 | 2 |   |   |   |   | 2 |   |   |   |   |
| Thyroid Gland              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland                   | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + |
| Ovary                            | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | I | + | + | + | + | + | + | + | + |
| Cyst                             |   |   |   |   |   |   | 2 | 2 |   |   |   | 2 |   |   |   |   | 1 |   |   |   |   |   |   |   |   |
| Thrombosis                       |   |   |   |   |   |   |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |   |   |   |   |   |
| Uterus                           | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic Active     |   |   |   |   |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Endometrium, Hyperplasia, Cystic | 3 | 3 |   |   | 2 | 3 | 2 |   | 3 | 4 |   | 2 |   | 3 | 3 | 1 | 4 |   | 3 | 2 | 2 | 3 | 2 | 3 | 2 |

**HEMATOPOIETIC SYSTEM**

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node     |   |   |   |   |   |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   | + |   |   |   | + |
| Iliac, Ectasia |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Renal, Ectasia |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3 |   | 3 |

\* .. 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

| B6C3F1 MICE FEMALE<br>control | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |                       | ANIMAL ID | females<br>(cont...) |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------------------|-----------|----------------------|
|                               | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>3<br>8<br>3 | 0<br>6<br>4<br>9 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>2 | 0<br>6<br>9<br>7 | 0<br>4<br>9<br>1 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>1 | 0<br>5<br>9<br>9 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>1 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>2 |   |                       |           |                      |
|                               | 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<br>0<br>1<br>0<br>1 |           |                      |

Renal, Hyperplasia, Lymphoid

Lymph Node, Bronchial

Lymph Node, Mandibular

Lymph Node, Mediastinal  
Hyperplasia, Lymphoid

Lymph Node, Mesenteric  
Hyperplasia, Lymphoid

Spleen  
Hematopoietic Cell Proliferation  
Necrosis

Thymus

**INTEGUMENTARY SYSTEM**

Mammary Gland  
Hyperplasia

Skin  
Inflammation, Chronic Active

**MUSCULOSKELETAL SYSTEM**

Bone  
Hyperostosis

\* .. 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

|                           |                |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                                    |                       |                       |                       |                       |
|---------------------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST    | 0<br>7                | 0<br>7                | 0<br>3                | 0<br>6                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>6                | 0<br>4                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>5                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>7                | 0<br>6                | <b>females</b><br><b>(cont...)</b> |                       |                       |                       |                       |
|                           | <b>control</b> | 3<br>2                | 3<br>3                | 8<br>3                | 4<br>9                | 3<br>1                | 3<br>1                | 3<br>2                | 9<br>7                | 9<br>1                | 3<br>2                | 3<br>3                | 3<br>1                | 9<br>9                | 3<br>3                | 3<br>3                | 3<br>3                | 3<br>2                | 3<br>3                | 3<br>2                | 3<br>1                | 3<br>1                | 3<br>3                | 4<br>9                |                                    |                       |                       |                       |                       |
|                           | ANIMAL ID      | 0<br>0<br>1<br>0<br>1 | 0<br>0<br>1<br>0<br>2 | 0<br>0<br>1<br>0<br>3 | 0<br>0<br>1<br>0<br>4 | 0<br>0<br>1<br>0<br>5 | 0<br>0<br>1<br>0<br>6 | 0<br>0<br>1<br>0<br>7 | 0<br>0<br>1<br>0<br>8 | 0<br>0<br>1<br>0<br>9 | 0<br>0<br>1<br>0<br>0 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>1<br>1 | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 |                                    | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 | 0<br>0<br>1<br>2<br>2 |

NERVOUS SYSTEM

|       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

RESPIRATORY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Larynx   | + | + | A | + | + | + | + | + | + | + | I | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Respiratory Epithelium, Metaplasia, Squamous Squamous Epithelium, Erosion Squamous Epithelium, Hyperplasia |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 | 1 |   |   |   |   |   |   |   |   |

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung   | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar Epithelium, Hyperplasia Alveolus, Infiltration Cellular, Histiocyte |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   | 2 |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nose  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Suppurative                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Olfactory Epithelium, Atrophy                         |   |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |
| Olfactory Epithelium, Hyperplasia                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Olfactory Epithelium, Metaplasia, Respiratory         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Respiratory Epithelium, Accumulation, Hyaline Droplet |   |   |   |   | 1 |   |   |   |   |   |   |   |   | 1 | 1 |   | 1 | 1 | 1 |   |   |   |   |   |
| Respiratory Epithelium, Hyperplasia                   | 1 | 1 | 1 |   | 1 | 1 | 1 | 1 | 1 |   | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Respiratory Epithelium, Hyperplasia, Histiocytic      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trachea | + | + | A | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

SPECIAL SENSES SYSTEM

|     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | A | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

\* .. 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

Test Type: CHRONIC

Cobalt

Time Report Requested: 08:23:28

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

First Dose M/F: 05/15/06 / 05/15/06

Species/Strain: MICE/B6C3F1

Lab: BNW

| B6C3F1 MICE FEMALE<br>control | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 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 |           |                      |
|                               | 7           | 7 | 3 | 6 | 7 | 7 | 7 | 6 | 4 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 0         |                      |
|                               | 3           | 3 | 8 | 4 | 3 | 3 | 3 | 9 | 9 | 3 | 3 | 3 | 3 | 9 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 0         |                      |
|                               | 2           | 3 | 3 | 9 | 1 | 1 | 2 | 7 | 9 | 1 | 2 | 3 | 1 | 9 | 3 | 3 | 3 | 2 | 3 | 2 | 1 | 1 | 3 | 9 | 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           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0         |                      |
|                               | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 0         |                      |
|                               | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 0         | females<br>(cont...) |

Harderian Gland Hyperplasia + + A +

**URINARY SYSTEM**

Kidney +

Amyloid Deposition

Cyst

Nephropathy 1 2 1

Renal Tubule, Hyperplasia 1

Renal Tubule, Necrosis

Urinary Bladder + + A +

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically M .. Missing tissue  
 X .. Lesion present A .. Autolysis precludes evaluation  
 I .. Insufficient tissue BLANK .. Not examined microscopically  
 1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked



| B6C3F1 MICE FEMALE<br>control | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |     |  |
|-------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-----|--|
|                               | 0732        | 0223  | 0773  | 0773  | 0552  | 0553  | 0773  | 0669  | 0773  | 0776  | 0667  | 0773  | 0773  | 0773  | 0773  | 0447  | 0773  | 0772  | 0773  | 0333  | 0333  | 0333  | 0333  | 0333  |          |     |  |
| ANIMAL ID                     | 00126       | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | 00148 | 00149 |          |     |  |
| Fat, Necrosis                 | 2           | 2     |       |       |       |       | 2     | 2     | 2     |       |       |       |       |       | 2     |       |       |       | 2     | 2     | 2     |       |       | 2     | 18       | 2.0 |  |
| Pancreas Atrophy              | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       | 1.0 |  |
| Salivary Glands               | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |     |  |
| Stomach, Forestomach Ulcer    | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       | 2.0 |  |
| Stomach, Glandular Ulcer      | +           | +     | +     | +     | +     | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 48       | 1.0 |  |
| <b>CARDIOVASCULAR SYSTEM</b>  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |     |  |
| Heart                         | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |     |  |
| Cardiomyopathy                |             |       | 1     |       |       |       |       |       |       | 1     |       |       |       |       | 1     |       |       |       |       |       |       |       |       |       | 6        | 1.2 |  |
| Mineralization                |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1     |       |       |       |       |       | 1        | 1.0 |  |
| Thrombosis                    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        | 3.0 |  |
| Capillary, Hyperplasia        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        | 3.0 |  |
| <b>ENDOCRINE SYSTEM</b>       |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |     |  |
| Adrenal Cortex Hyperplasia    | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       | 2.0 |  |
| Adrenal Medulla Hyperplasia   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       | 2.0 |  |
| Islets, Pancreatic            | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50       |     |  |

\* .. 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

| B6C3F1 MICE FEMALE<br>control | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |
|-------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                               | 0732        | 0233  | 0733  | 0732  | 0523  | 0533  | 0733  | 0678  | 0772  | 0771  | 0773  | 0773  | 0773  | 0773  | 0430  | 0733  | 0733  | 0725  | 0722  | 0721  | 0721  | 0721  | 0721  | 0721  |          |
| ANIMAL ID                     | 00126       | 00127 | 00128 | 00129 | 00130 | 00131 | 00132 | 00133 | 00134 | 00135 | 00136 | 00137 | 00138 | 00139 | 00140 | 00141 | 00142 | 00143 | 00144 | 00145 | 00146 | 00147 | 00148 | 00149 | 00150    |

|                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |               |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------------|
| Parathyroid Gland          | + | + | M | + | M | M | + | + | + | + | + | + | + | M | + | + | M | M | M | M | + | + | + | + | M | <b>28</b>     |
| Pituitary Gland            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | <b>47</b>     |
| Pars Distalis, Angiectasis |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   | <b>2 1.0</b>  |
| Pars Distalis, Hyperplasia |   |   |   |   |   |   |   |   |   | 2 |   | 2 |   | 2 |   |   |   | 2 | 3 | 2 |   |   |   |   |   | <b>12 2.0</b> |
| Thyroid Gland              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | <b>50</b>     |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |               |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|---------------|
| Clitoral Gland                   | + | M | + | + | + | M | + | + | + | + | + | + | + | M | + | + | + | + | M | + | + | + | M | + | +            | <b>43</b>     |
| Ovary                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +            | <b>48</b>     |
| Cyst                             |   |   |   |   |   |   | 2 |   | 2 |   |   |   |   |   |   |   | 2 |   |   |   |   |   | 2 |   | <b>8 1.9</b> |               |
| Thrombosis                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              | <b>1 4.0</b>  |
| Uterus                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +            | <b>49</b>     |
| Inflammation, Chronic Active     |   |   |   |   |   |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |              | <b>2 3.0</b>  |
| Endometrium, Hyperplasia, Cystic | 2 |   | 4 | 4 | 3 | 2 | 3 | 4 | 4 | 2 | 3 | 2 | 3 |   |   | 2 | 2 | 4 | 2 | 3 | 3 | 4 | 3 | 2 | 3            | <b>41 2.8</b> |

**HEMATOPOIETIC SYSTEM**

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |              |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------|
| Bone Marrow    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | <b>50</b>    |
| Lymph Node     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>11</b>    |
| Iliac, Ectasia |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>3 3.0</b> |
| Renal, Ectasia |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>2 3.0</b> |

\* .. 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



| B6C3F1 MICE FEMALE<br>control                          | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |    |                |       |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|----|----------------|-------|
|  | 0732        | 0223  | 0773  | 0773  | 0552  | 0553  | 0773  | 0668  | 0779  | 0773  | 0665  | 0773  | 0773  | 0773  | 0473  | 0773  | 0773  | 0275  | 0773  | 0773  | 0773  | 0773  | 0773  | 0773  |          |    |                |       |
| ANIMAL ID  | 00126       | 00117 | 00111 | 00111 | 00111 | 00111 | 00111 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 | 00100 |          |    |                |       |
| Renal, Hyperplasia, Lymphoid                           | 3           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1 3.0 |          |    |                |       |
| Lymph Node, Bronchial                                  | M           | M     | M     | M     | +     | +     | M     | M     | +     | +     | +     | M     | M     | M     | +     | M     | M     | +     | M     | +     | M     | M     | M     | +     | 22       |    |                |       |
| Lymph Node, Mandibular                                 | +           | +     | M     | +     | +     | +     | M     | +     | +     | +     | M     | +     | M     | M     | +     | +     | M     | +     | +     | +     | +     | M     | M     | M     | +        | 40 |                |       |
| Lymph Node, Mediastinal<br>Hyperplasia, Lymphoid       | +           | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | M     | +        | 42 | 1 2.0          |       |
| Lymph Node, Mesenteric<br>Hyperplasia, Lymphoid        | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 49 | 1 2.0          |       |
| Spleen<br>Hematopoietic Cell Proliferation<br>Necrosis | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | 49 | 5 2.6<br>1 3.0 |       |
| Thymus   | +           | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +        | 46 |                |       |
| <b>INTEGUMENTARY SYSTEM</b>                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |    |                |       |
| Mammary Gland<br>Hyperplasia                           | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +        | +  | 48             | 1 3.0 |
| Skin<br>Inflammation, Chronic Active                   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +  | 50             | 2 2.5 |
| <b>MUSCULOSKELETAL SYSTEM</b>                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |    |                |       |
| Bone<br>Hyperostosis                                   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +  | 50             | 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









| B6C3F1 MICE FEMALE | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  | females<br>(cont...) |
|--------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|----------------------|
|                    | 0733        | 0733 | 0713 | 0733 | 0733 | 0732 | 0764 | 0773 | 0773 | 0773 | 0773 | 0773 | 0766 | 0773 | 0773 | 0766 | 0766 | 0773 | 0755 | 0773 | 0773 | 0773 | 0766 |  |                      |
| 1.25 mg/m3         | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |  |                      |
|                    | 3300        | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 |  |                      |
|                    | 12          | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   | 33   |  |                      |

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parathyroid Gland            | + | + | + | M | + | M | + | + | M | M | M | + | + | + | + | + | + | + | + | + | M | + | + | + | M |
| Pituitary Gland              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Angiectasis   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pars Distalis, Hyperplasia   |   |   |   |   |   | 2 |   |   |   |   |   | 3 |   |   |   |   |   |   |   |   |   |   |   |   | 2 |
| Thyroid Gland                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Follicular Cell, Hyperplasia |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland                   | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + |
| Ovary                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst                             |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Uterus                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Angiectasis                      |   |   |   | 4 |   |   | 2 |   |   |   | 3 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Thrombosis                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Endometrium, Hyperplasia, Cystic | 2 |   |   | 2 | 4 | 3 | 2 | 2 | 2 | 1 |   | 3 | 4 |   | 3 | 4 |   |   | 2 | 2 | 2 | 3 | 1 | 2 | 2 |   |

**HEMATOPOIETIC SYSTEM**

|                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Lymph Node      |   |   |   | + |   | + | + | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |
| Lumbar, Ectasia |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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 + .. 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

| B6C3F1 MICE FEMALE<br>1.25 mg/m3                                    | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |      |      |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|------|------|
|   | 0733        | 0733 | 0713 | 0733 | 0733 | 0732 | 0769 | 0773 | 0773 | 0773 | 0773 | 0773 | 0766 | 0773 | 0773 | 0766 | 0766 | 0773 | 0755 | 0773 |           |                      | 0773 | 0773 |
|   | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000      | 0000                 | 0000 | 0000 |
|   | 3300        | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300 | 3300      | 3300                 | 3300 | 3300 |
|   | 0001        | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021      | 0022                 | 0023 | 0024 |
| Renal, Ectasia  |             |      |      |      |      | 2    |      | 3    |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |      |      |
| Renal, Erythrophagocytosis  |             |      | 2    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |      |      |
| Lymph Node, Bronchial   | +           | M    | +    | +    | +    | M    | +    | M    | +    | +    | M    | +    | +    | A    | +    | +    | +    | +    | +    | +    | +         | M                    | +    | +    |
| Lymph Node, Mandibular<br>Hyperplasia, Lymphoid                     | M           | +    | +    | M    | +    | +    | +    | +    | +    | +    | M    | +    | M    | +    | +    | +    | +    | +    | +    | +    | +         | +                    | +    | M    |
| Lymph Node, Mediastinal   | +           | +    | M    | +    | +    | +    | +    | +    | +    | +    | M    | +    | M    | +    | +    | +    | +    | +    | +    | M    | +         | +                    | +    | M    |
| Lymph Node, Mesenteric<br>Ectasia<br>Hyperplasia, Lymphoid          | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | A    | +    | +    | +    | +    | +    | +    | +         | +                    | +    | 3    |
| Spleen<br>Hematopoietic Cell Proliferation<br>Hyperplasia, Lymphoid | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | A    | +    | +    | +    | +    | 3    | +    | +         | +                    | +    | +    |
| Thymus  | +           | +    | M    | M    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | M         | +                    | +    | +    |
| <b>INTEGUMENTARY SYSTEM</b>   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |      |      |
| Mammary Gland   | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         | +                    | +    | +    |
| Skin<br>Inflammation, Chronic Active                                | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         | +                    | +    | 3    |
| <b>MUSCULOSKELETAL SYSTEM</b>                                       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |      |      |
| Bone  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +         | +                    | +    | +    |

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 + .. Tissue examined microscopically  
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1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked











| B6C3F1 MICE FEMALE<br>1.25 mg/m3 | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | * TOTALS              |                       |     |  |     |  |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----|--|-----|--|
|                                  | 0<br>5<br>3<br>7      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>6<br>7<br>3      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>3<br>9<br>1      | 0<br>5<br>3<br>7      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>6<br>1<br>4      | 0<br>5<br>0<br>5      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>1      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>6<br>8<br>1      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>0      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      |                       | 0<br>7<br>3<br>3      |     |  |     |  |
| ANIMAL ID                        | 0<br>0<br>3<br>2<br>6 | 0<br>0<br>3<br>2<br>7 | 0<br>0<br>3<br>2<br>8 | 0<br>0<br>3<br>2<br>9 | 0<br>0<br>3<br>3<br>0 | 0<br>0<br>3<br>3<br>1 | 0<br>0<br>3<br>3<br>2 | 0<br>0<br>3<br>3<br>3 | 0<br>0<br>3<br>3<br>4 | 0<br>0<br>3<br>3<br>5 | 0<br>0<br>3<br>3<br>6 | 0<br>0<br>3<br>3<br>7 | 0<br>0<br>3<br>3<br>8 | 0<br>0<br>3<br>3<br>9 | 0<br>0<br>3<br>4<br>0 | 0<br>0<br>3<br>4<br>1 | 0<br>0<br>3<br>4<br>2 | 0<br>0<br>3<br>4<br>3 | 0<br>0<br>3<br>4<br>4 | 0<br>0<br>3<br>4<br>5 | 0<br>0<br>3<br>4<br>6 | 0<br>0<br>3<br>4<br>7 | 0<br>0<br>3<br>4<br>8 | 0<br>0<br>3<br>4<br>9 | 0<br>0<br>3<br>4<br>0 | 0<br>0<br>3<br>4<br>0 |     |  |     |  |
| Fat, Necrosis                    | 2                     |                       |                       |                       | 2                     |                       |                       |                       | 2                     |                       | 2                     |                       |                       |                       | 3                     |                       |                       |                       | 11                    |                       | 2.2                   |                       |                       |                       |                       |                       |     |  |     |  |
| Pancreas                         | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Salivary Glands                  | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Stomach, Forestomach<br>Ulcer    | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       | 2   |  | 2.5 |  |
| Stomach, Glandular<br>Ulcer      | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       | 2   |  | 2.5 |  |
| <b>CARDIOVASCULAR SYSTEM</b>     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |     |  |     |  |
| Heart                            | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Cardiomyopathy                   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 3                     |                       | 1.0 |  |     |  |
| Mineralization                   |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 1                     |                       | 2.0 |  |     |  |
| Necrosis                         |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 1                     |                       | 2.0 |  |     |  |
| <b>ENDOCRINE SYSTEM</b>          |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |     |  |     |  |
| Adrenal Cortex                   | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Hyperplasia                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 1                     |                       | 2.0 |  |     |  |
| Hypertrophy                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 2                     |                       | 2.0 |  |     |  |
| Adrenal Medulla                  | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Hyperplasia                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 1                     |                       | 2.0 |  |     |  |
| Islets, Pancreatic               | +                     |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 50                    |                       |     |  |     |  |
| Hyperplasia                      |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | 2                     |                       | 3.0 |  |     |  |

\* .. 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







| B6C3F1 MICE FEMALE<br>1.25 mg/m3                                | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |       |           |           |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-----------|-----------|
|   | 0537        | 0731  | 0731  | 0731  | 0673  | 0773  | 0773  | 0393  | 0537  | 0773  | 0773  | 0651  | 0577  | 0773  | 0773  | 0773  | 0676  | 0773  | 0773  | 0773  |          |       |       |       |           |           |
| ANIMAL ID   | 00326       | 00327 | 00328 | 00329 | 00330 | 00331 | 00332 | 00333 | 00334 | 00335 | 00336 | 00337 | 00338 | 00339 | 00340 | 00341 | 00342 | 00343 | 00344 | 00345 | 00346    | 00347 | 00348 | 00349 | 00350     |           |
| Olfactory Epithelium, Atrophy                                   | 1           | 1     | 1     |       | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     | 2     | 1     |       | 2        |       | 1     |       | <b>44</b> |           |
| Olfactory Epithelium, Hyperplasia                               |             |       | 1     |       |       | 1     | 1     | 1     | 1     | 2     | 1     |       |       | 1     |       | 2     | 1     |       | 1     |       | 1        |       | 1     |       | <b>22</b> |           |
| Olfactory Epithelium, Metaplasia, Respiratory                   | 2           |       |       |       | 3     | 1     |       |       |       |       | 2     |       | 1     |       | 3     |       |       | 1     | 3     | 2     |          |       |       | 1     | <b>26</b> |           |
| Olfactory Epithelium, Respiratory Metaplasia, Atypical          |             |       |       |       |       | 1     |       | 1     | 2     |       | 1     |       | 2     |       | 1     | 2     |       |       |       | 2     |          | 1     | 1     |       | <b>18</b> |           |
| Respiratory Epithelium, Accumulation, Hyaline Droplet           | 1           | 1     | 1     | 1     |       | 2     | 1     |       | 1     | 1     |       | 2     | 1     | 1     | 1     | 1     | 1     | 1     |       | 1     | 1        | 1     | 1     |       | <b>38</b> |           |
| Respiratory Epithelium, Hyperplasia                             | 1           | 1     | 1     | 1     | 1     | 1     | 1     |       | 1     | 1     |       | 1     | 1     |       | 1     | 1     |       | 1     | 1     | 1     |          | 1     | 1     | 2     | <b>40</b> |           |
| Respiratory Epithelium, Metaplasia, Squamous                    | 1           | 2     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 2     | 2     | 2     |          | 1     | 1     | 1     | <b>49</b> |           |
| Respiratory Epithelium, Vacuolization Cytoplasmic               | 1           | 1     |       | 1     | 1     | 1     | 1     | 1     | 1     | 1     |       |       |       | 1     | 2     | 1     | 1     | 1     | 1     | 1     |          | 1     |       | 1     | <b>40</b> |           |
| Squamous Epithelium, Erosion                                    |             |       |       |       | 2     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1        |       |       |       | <b>7</b>  |           |
| Turbinate, Atrophy  | 2           | 2     | 2     | 2     | 2     | 2     |       | 4     |       | 2     | 2     | 2     |       | 3     | 2     | 4     | 2     | 3     | 3     | 2     | 2        | 2     | 1     | 2     | <b>44</b> |           |
| Pleura  |             |       | +     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       | <b>1</b>  |           |
| Trachea   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | <b>50</b> |           |
| Inflammation, Suppurative Epithelium, Vacuolization Cytoplasmic | 1           |       |       |       |       |       |       | 2     |       | 1     | 2     |       | 1     |       |       |       |       | 1     |       | 2     |          | 2     | 2     |       | <b>26</b> |           |
| <b>SPECIAL SENSES SYSTEM</b>                                    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |           |           |
| Eye   | +           | +     | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | A     | +     | +     | +         | <b>46</b> |
| Phthisis Bulbi  |             |       |       |       |       |       |       |       |       |       |       | 3     |       |       |       |       |       |       |       |       |          | 2     |       |       | <b>2</b>  |           |
| Cornea, Inflammation, Chronic Active                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2     |       |          |       |       |       | <b>2</b>  |           |
| Harderian Gland   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | <b>49</b> |           |
| Hyperplasia   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       | <b>1</b>  |           |
| Zymbal's Gland  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       | <b>1</b>  |           |

\* .. 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







| B6C3F1 MICE FEMALE<br>2.5 mg/m3                  | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
|  | 0733        | 0733 | 0733 | 0593 | 0577 | 0567 | 0557 | 0577 | 0577 | 0556 | 0567 | 0577 | 0556 | 0567 | 0577 | 0577 | 0577 | 0577 | 0558 | 0573 | 0573 | 0566 | 0555 | 0576 | 0555 |           |                      |
|  | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |           |                      |
| Fat, Necrosis                                    |             |      |      |      |      | 2    | 2    | 2    |      |      |      |      | 2    | 2    |      |      |      |      |      |      |      |      |      |      | 2    |           |                      |
| Pancreas Atrophy                                 | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
| Salivary Glands                                  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
| Stomach, Forestomach Hyperplasia, Squamous Ulcer | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 3    | +    | +    | +    |           |                      |
| Stomach, Glandular Metaplasia, Hepatocyte        | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 2    | +    | +    | +    |           |                      |
| <b>CARDIOVASCULAR SYSTEM</b>                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |
| Heart Cardiomyopathy                             | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
|  |             |      |      |      |      |      |      |      | 1    | 1    |      |      | 1    |      |      |      |      |      |      |      |      | 1    |      |      | 1    |           |                      |
| <b>ENDOCRINE SYSTEM</b>                          |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                      |
| Adrenal Cortex Hyperplasia                       | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
| Adrenal Medulla                                  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
| Islets, Pancreatic                               | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                      |
| Parathyroid Gland                                | +           | +    | M    | M    | +    | M    | +    | +    | +    | M    | +    | M    | M    | M    | +    | +    | +    | M    | +    | M    | +    | M    | +    | M    |      |           |                      |
| Pituitary Gland                                  | +           | +    | +    | +    | +    | M    | +    | +    | +    | +    | +    | I    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |      |           |                      |

\* .. 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













| B6C3F1 MICE FEMALE                               | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |    |     |     |    |     |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|----|-----|-----|----|-----|
|  | 0733        | 0646  | 0533  | 0709  | 0733  | 0771  | 0772  | 0773  | 0633  | 0573  | 0732  | 0779  | 0457  | 0668  | 0773  | 0733  | 0733  | 0613  | 0733  | 0773  |          | 0573  | 0773  |    |     |     |    |     |
| 2.5 mg/m3  | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |    |     |     |    |     |
|  | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 |          | 00546 | 00547 |    |     |     |    |     |
| Fat, Necrosis                                    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       | 2     | 2  | 2   | 2   | 10 | 2.0 |
| Pancreas Atrophy                                 | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50    | 2  | 2.5 |     |    |     |
| Salivary Glands                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50    |    |     |     |    |     |
| Stomach, Forestomach Hyperplasia, Squamous Ulcer | +           | +     | 2     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 2     | +     | +     | +     | +     | +     | +     | +        | +     | 50    | 3  | 2.3 |     |    |     |
| Stomach, Glandular Metaplasia, Hepatocyte        | +           | +     | 3     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | A     | +     | +     | +        | +     | 49    | 1  | 2.0 |     |    |     |
| <b>CARDIOVASCULAR SYSTEM</b>                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |    |     |     |    |     |
| Heart Cardiomyopathy                             | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | 50    | 11 | 1.0 |     |    |     |
| <b>ENDOCRINE SYSTEM</b>                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |    |     |     |    |     |
| Adrenal Cortex Hyperplasia                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 2     | +     | +     | +        | +     | +     | 50 | 1   | 2.0 |    |     |
| Adrenal Medulla                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | I     | +     | 49 |     |     |    |     |
| Islets, Pancreatic                               | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | 50 |     |     |    |     |
| Parathyroid Gland                                | M           | M     | M     | +     | +     | +     | +     | M     | M     | M     | M     | +     | +     | +     | M     | +     | +     | M     | M     | M     | M        | +     | M     | M  | 24  |     |    |     |
| Pituitary Gland                                  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | 48 |     |     |    |     |

\* .. 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

| B6C3F1 MICE FEMALE | 2.5 mg/m3 | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |
|--------------------|-----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|                    |           | 0733        | 0646  | 0533  | 0709  | 0773  | 0773  | 0773  | 0773  | 0667  | 0557  | 0773  | 0459  | 0667  | 0773  | 0773  | 0773  | 0667  | 0773  | 0773  | 0557  |          |
| ANIMAL ID          |           | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546    |
|                    |           | 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        |
|                    |           | 5           | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5        |
|                    |           | 2           | 2     | 2     | 2     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4        |
|                    |           | 6           | 7     | 8     | 9     | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 0     | 1     | 2     | 3     | 4     | 5     | 6        |

Pars Distalis, Hyperplasia 2 4 2 2 3 6 2.5

Thyroid Gland + 50

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Clitoral Gland + + + M M + I M + M + M + + + + + + + + + + + + 41

Ovary + 50

Cyst 4 2 2 3 1 3 11 2.7

Thrombosis 4 1 3 1 4.0

Uterus + 50

Inflammation, Chronic Active 1 2 2 2 3 3 2 3 3 3 1 3 3 3 3 3 2 1 1 3.0

Endometrium, Hyperplasia, Cystic 40 2.3

Vagina 1

**HEMATOPOIETIC SYSTEM**

Bone Marrow + 50

Lymph Node Iliac, Ectasia + 7 1 3.0

Lymph Node, Bronchial + + + + M + + + M + + + M + M + M + M + + M M + + 34

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically M .. Missing tissue 1-4 .. Lesion qualified as:  
 X .. Lesion present A .. Autolysis precludes evaluation 1) Minimal 3) Moderate  
 I .. Insufficient tissue BLANK .. Not examined microscopically 2) Mild 4) Marked

| B6C3F1 MICE FEMALE<br>2.5 mg/m3  | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |       |       |       |  |
|----------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|--|
|                                  | 0733        | 0646  | 0533  | 0709  | 0773  | 0773  | 0773  | 0653  | 0573  | 0773  | 0466  | 0773  | 0773  | 0773  | 0666  | 0773  | 0773  | 0773  | 0773  | 0573  |          | 0773  |       |       |       |       |  |
| ANIMAL ID                        | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546    | 00547 | 00548 | 00549 | 00550 |       |  |
| Lymph Node, Mandibular           | M           | +     | M     | M     | +     | +     | +     | M     | +     | +     | +     | +     | M     | +     | +     | +     | +     | M     | +     | +     | +        | M     | +     | M     | +     | 38    |  |
| Lymph Node, Mediastinal          | +           | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 44    |  |
| Lymph Node, Mesenteric           | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | A     | +     | +     | +        | +     | +     | +     | +     | 47    |  |
| Spleen                           | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | A     | +     | +     | +        | +     | +     | +     | +     | 48    |  |
| Hematopoietic Cell Proliferation |             |       |       |       | 2     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 4 3.0 |  |
| Hyperplasia, Lymphoid            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1 2.0 |  |
| Thymus                           | +           | M     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | A     | +     | +     | +        | +     | +     | +     | +     | 46    |  |
| <b>INTEGUMENTARY SYSTEM</b>      |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |  |
| Mammary Gland                    | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50    |  |
| Hyperplasia                      |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2     |       |       |          |       |       |       |       | 1 2.0 |  |
| Skin                             | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 49    |  |
| Inflammation, Chronic Active     |             |       |       |       | 4     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 2 4.0 |  |
| <b>MUSCULOSKELETAL SYSTEM</b>    |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |  |
| Bone                             | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50    |  |
| Skeletal Muscle                  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       | 1     |  |
| <b>NERVOUS SYSTEM</b>            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       |       |       |  |
| Brain                            | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +     | +     | +     | 50    |  |
| Peripheral Nerve                 |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |       |       | +     | 1     |  |

\* .. 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

| B6C3F1 MICE FEMALE | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |       |       |       |
|--------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|
|                    | 0733        | 0646  | 0533  | 0770  | 0773  | 0773  | 0773  | 0773  | 0657  | 0577  | 0774  | 0646  | 0777  | 0777  | 0777  | 0676  | 0777  | 0777  | 0777  | 0575  |          | 0777  |       |       |       |
| 2.5 mg/m3          | 00526       | 00527 | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546    | 00547 | 00548 | 00549 | 00550 |

RESPIRATORY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |        |   |   |    |     |     |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--------|---|---|----|-----|-----|
| Larynx   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |        |   |   |    |     |     |
| Inflammation, Chronic                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1 2.0  |   |   |    |     |     |
| Respiratory Epithelium, Metaplasia, Squamous               | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1      | 1 | 1 | 50 | 1.0 |     |
| Respiratory Epithelium, Vacuolization Cytoplasmic          | 1 | 1 |   | 1 | 1 |   |   | 1 |   | 1 |   |   |   | 1 |   | 1 |   | 2 | 1 | 1 |    | 1      | 1 | 1 | 31 | 1.0 |     |
| Squamous Epithelium, Erosion                               | 1 | 1 | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |        |   |   | 7  | 1.0 |     |
| Squamous Epithelium, Hyperplasia                           | 1 | 1 | 1 | 1 |   |   |   | 1 |   | 1 |   | 1 |   |   | 1 |   |   | 1 |   |   |    |        |   | 1 | 21 | 1.0 |     |
| Lung   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |        |   |   |    |     |     |
| Infiltration Cellular, Histiocyte                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 2 2.0  |   |   |    |     |     |
| Inflammation, Suppurative                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1 1.0  |   |   |    |     |     |
| Proteinosis  | 3 | 2 | 3 | 3 | 2 | 3 | 4 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 1 | 3 | 4 | 3 | 3  | 4      | 2 | 3 | 3  | 50  | 2.6 |
| Thrombosis   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 1 3.0  |   |   |    |     |     |
| Alveolar/bronchiolar Epithelium, Hyperplasia               | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 1 |   | 2 | 3 | 2  | 1      | 2 | 2 | 2  | 49  | 1.9 |
| Alveolar/bronchiolar Epithelium, Vacuolization Cytoplasmic | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | 2 |   | 2 | 2 | 2  | 2      | 2 | 2 | 2  | 49  | 1.9 |
| Alveolar Epithelium, Hyperplasia                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 26 1.4 |   |   |    |     |     |
| Alveolus, Infiltration Cellular, Histiocyte                | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 4 | 2 | 4 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 3  | 2      | 2 | 2 | 2  | 50  | 2.5 |
| Bronchiole, Epithelium, Erosion                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 4 1.0  |   |   |    |     |     |
| Bronchiole, Epithelium, Hyperplasia                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 12 1.1 |   |   |    |     |     |
| Nose   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 50 |        |   |   |    |     |     |
| Inflammation, Suppurative                                  | 1 | 4 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 2 | 3 | 2 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2  | 2      | 3 | 2 | 3  | 50  | 3.1 |
| Olfactory Epithelium, Atrophy                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 39 1.2 |   |   |    |     |     |
| Olfactory Epithelium, Hyperplasia                          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 16 1.0 |   |   |    |     |     |
| Olfactory Epithelium, Metaplasia, Respiratory              | 1 | 4 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 3 | 4 | 2 |   | 4 | 2 | 3 |   | 3  | 3      |   | 3 | 2  | 44  | 2.7 |
| Olfactory Epithelium, Respiratory Metaplasia, Atypical     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    | 14 1.5 |   |   |    |     |     |

\* .. 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

| B6C3F1 MICE FEMALE                                    | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |   |       |       |       |           |            |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---|-------|-------|-------|-----------|------------|
|   | 0733        | 0646  | 0553  | 0770  | 0773  | 0773  | 0773  | 0667  | 0557  | 0774  | 0774  | 0446  | 0667  | 0777  | 0777  | 0777  | 0666  | 0777  | 0777  | 0777  |          |   | 0557  | 0777  |       |           |            |
| 2.5 mg/m3   | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |   |       |       |       |           |            |
| 00526   | 00527       | 00528 | 00529 | 00530 | 00531 | 00532 | 00533 | 00534 | 00535 | 00536 | 00537 | 00538 | 00539 | 00540 | 00541 | 00542 | 00543 | 00544 | 00545 | 00546 |          |   | 00547 | 00548 | 00549 | 00550     |            |
| Respiratory Epithelium, Accumulation, Hyaline Droplet |             | 1     |       | 1     | 1     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     |       | 1     | 1     |       | 1     | 1     | 2        | 1 | 2     | 1     | 1     | <b>40</b> | <b>1.2</b> |
| Respiratory Epithelium, Hyperplasia                   |             | 1     | 1     | 1     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 1     |       |       | 1     | 1     | 1     | 2     | 1     | 1     | 1        | 1 | 1     | 1     | 2     | <b>40</b> | <b>1.1</b> |
| Respiratory Epithelium, Metaplasia, Squamous          | 1           | 2     | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 3     | 2     | 1     | 2     | 3     | 2     | 2     | 2     | 1     | 1     | 1     | 2        | 1 | 2     | 1     | 2     | <b>49</b> | <b>1.4</b> |
| Respiratory Epithelium, Vacuolization Cytoplasmic     |             | 2     | 1     | 1     | 1     | 2     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 2     | 1     |          | 2 | 1     | 1     | 1     | <b>47</b> | <b>1.1</b> |
| Squamous Epithelium, Erosion                          |             |       | 1     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       | <b>1</b>  | <b>1.0</b> |
| Turbinate, Atrophy                                    | 3           | 4     | 3     | 2     | 3     | 2     | 2     | 3     | 2     | 4     | 4     | 2     | 2     | 4     | 4     | 3     | 2     | 2     | 3     | 3     | 3        | 2 | 2     | 2     | 2     | <b>50</b> | <b>2.9</b> |
| Trachea   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | + | +     | +     | +     | <b>48</b> |            |
| Epithelium, Vacuolization Cytoplasmic                 | 2           | 2     |       | 2     | 2     | 2     | 2     | 2     |       | 1     |       | 2     |       | 2     |       | 2     | 2     |       | 2     | 1     |          | 3 | 1     | 1     | 2     | <b>37</b> | <b>1.6</b> |
| <b>SPECIAL SENSES SYSTEM</b>                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       |           |            |
| Eye   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | + | +     | +     | +     | <b>48</b> |            |
| Cornea, Inflammation, Chronic Active                  |             | 3     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       | <b>1</b>  | <b>3.0</b> |
| Harderian Gland                                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | + | +     | +     | +     | <b>49</b> |            |
| Hyperplasia   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       | <b>1</b>  | <b>2.0</b> |
| Zymbal's Gland  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       | <b>1</b>  |            |
| <b>URINARY SYSTEM</b>                                 |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       |           |            |
| Kidney  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | + | +     | +     | +     | <b>50</b> |            |
| Infarct   |             |       |       | 2     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |   |       |       |       | <b>2</b>  | <b>2.5</b> |
| Nephropathy   |             | 1     | 1     |       |       |       |       |       |       |       | 1     |       | 1     |       | 1     |       | 1     |       | 1     |       |          |   |       |       |       | <b>20</b> | <b>1.1</b> |
| Urinary Bladder                                       | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | + | +     | +     | +     | <b>48</b> |            |

\* .. 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

| B6C3F1 MICE FEMALE | DAY ON TEST |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |      | ANIMAL ID | females (cont...) |
|--------------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|-----------|-------------------|
|                    | 0354        | 0732       | 0663       | 0732       | 0631       | 0703       | 0733       | 0733       | 0571       | 0613       | 0733       | 0733       | 0666       | 0733       | 0733       | 0554       | 0664       | 0660       | 0732       | 0733       | 0505       | 0533       | 0533       | 0703       | 0703 |           |                   |
| 5.0 mg/m3          | 0070        | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070       | 0070 |           |                   |
|                    | 1234567890  | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 |      |           |                   |

**ALIMENTARY SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Gallbladder                               | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                    | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Basophilic Focus                          |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Hepatodiaphragmatic Nodule Necrosis       |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Tension Lipidosis                         |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Vacuolization Cytoplasmic Bile Duct, Cyst |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Mesentery                                 |   |   |   |   |   |   | + |   |   |   |   | + |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fat, Necrosis                             |   |   |   |   |   |   | 2 |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreas                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

|                           |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>B6C3F1 MICE FEMALE</b> | 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 | 0 | 0 | 0 | 0 | 0 | 0 |   |   |   |
|                           | ANIMAL ID   | 3 | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 6 | 6 | 6 | 7 | 7 | 5 | 5 | 7 | 5 | 7 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |
| <b>5.0 mg/m3</b>          |             | 5 | 3 | 6 | 3 | 1 | 0 | 3 | 3 | 7 | 1 | 3 | 3 | 6 | 3 | 3 | 5 | 0 | 8 | 6 | 3 | 3 | 0 | 3 | 3 | 0 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   |   |   |
|                           |             | 4 | 2 | 3 | 2 | 8 | 9 | 2 | 1 | 1 | 8 | 2 | 1 | 2 | 0 | 3 | 3 | 4 | 4 | 4 | 0 | 2 | 3 | 3 | 5 | 3 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |   |   |
|                           |             | 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 |   |
|                           |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                           |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

females (cont...)

Atrophy

Salivary Glands

Stomach, Forestomach  
Hyperplasia, Squamous  
Metaplasia, Hepatocyte

Stomach, Glandular

**CARDIOVASCULAR SYSTEM**

Heart  
Cardiomyopathy  
Inflammation, Suppurative  
Necrosis  
Thrombosis

**ENDOCRINE SYSTEM**

Adrenal Cortex  
Hyperplasia

Adrenal Medulla  
Hyperplasia

Islets, Pancreatic  
Hyperplasia

Parathyroid Gland

\* .. 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

| B6C3F1 MICE FEMALE | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | ANIMAL ID | females<br>(cont...) |
|--------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------------------|
|                    | 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 |           |                      |
| 5.0 mg/m3          | 3           | 7 | 6 | 7 | 6 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 6 | 6 | 6 | 7 | 7 | 5 | 5 | 7 | 0         |                      |
|                    | 5           | 3 | 6 | 3 | 1 | 0 | 3 | 3 | 7 | 1 | 3 | 3 | 3 | 6 | 3 | 3 | 5 | 0 | 8 | 6 | 3 | 3 | 0 | 3 | 3 | 0         |                      |
|                    | 4           | 2 | 3 | 2 | 8 | 9 | 2 | 1 | 1 | 8 | 2 | 1 | 2 | 0 | 3 | 3 | 4 | 4 | 4 | 0 | 2 | 3 | 5 | 3 | 1 | 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         |                      |
|                    | 7           | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0         |                      |
|                    | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 0         |                      |
|                    | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 0         |                      |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pituitary Gland<br>Pars Distalis, Hyperplasia | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 2 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

|               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |  |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Clitoral Gland | + | M | + | + | + | M | + | + | + | + | + | + | M | + | M | + | + | + | + | + | M | + | + | + | M |  |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|

|                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ovary                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Angiectasis               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3 |
| Cyst                      |   |   |   |   |   | 2 |   |   |   |   | 3 |   |   | 3 |   |   |   |   |   | 3 |   |   |   |   |   |   |
| Inflammation, Suppurative | 3 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Uterus                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Thrombosis                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Endometrium, Hyperplasia, Cystic |   | 1 | 1 | 3 | 3 | 2 | 2 |   |   |   | 2 | 3 |   |   | 3 | 2 |   |   |   | 3 | 2 |   |   | 2 |   |  |

HEMATOPOIETIC SYSTEM

|             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|

|            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Lymph Node |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node, Bronchial<br>Inflammation, Suppurative | + | + | M | M | M | + | + | + | + | M | M | M | M | M | + | M | M | + | + | M | + | + | M | M | M | 4 |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

\* .. 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



| B6C3F1 MICE FEMALE<br>5.0 mg/m3   | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | ANIMAL ID | females<br>(cont...) |                  |                       |                  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|----------------------|------------------|-----------------------|------------------|
|   | 0<br>3<br>5<br>4 | 0<br>7<br>3<br>2 | 0<br>6<br>6<br>3 | 0<br>7<br>3<br>2 | 0<br>6<br>1<br>8 | 0<br>7<br>0<br>9 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>5<br>7<br>1 | 0<br>6<br>1<br>8 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>6<br>3<br>0 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>3 | 0<br>5<br>5<br>4 | 0<br>6<br>0<br>4 | 0<br>6<br>8<br>6 | 0<br>6<br>6<br>0 | 0<br>7<br>3<br>3 |           |                      | 0<br>5<br>0<br>5 | 0<br>5<br>3<br>3      | 0<br>7<br>3<br>1 |
| Lymph Node, Mandibular  | +                | +                | +                | +                | +                | +                | +                | +                | +                | M                | M                | +                | M                | +                | M                | +                | M                | M                | M                | +                | +         | +                    | +                | 0<br>0<br>7<br>0<br>1 |                  |
| Lymph Node, Mediastinal<br>Hyperplasia, Lymphoid<br>Inflammation, Suppurative | +                | +                | +                | +                | +                | M                | M                | +                | +                | +                | M                | +                | +                | +                | +                | +                | +                | +                | M                | +                | +         | +                    | +                | 0<br>0<br>7<br>0<br>1 | 4                |
| Lymph Node, Mesenteric  | +                | +                | +                | +                | +                | +                | I                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                | 0<br>0<br>7<br>0<br>1 |                  |
| Spleen<br>Hematopoietic Cell Proliferation                                    | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                | 0<br>0<br>7<br>0<br>1 |                  |
| Thymus<br>Hyperplasia, Lymphoid   | +                | +                | +                | +                | +                | M                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                | 0<br>0<br>7<br>0<br>1 | 4                |
| <b>INTEGUMENTARY SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                      |                  |                       |                  |
| Mammary Gland   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                |                       |                  |
| Skin  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                |                       |                  |
| <b>MUSCULOSKELETAL SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                      |                  |                       |                  |
| Bone  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                |                       |                  |
| <b>NERVOUS SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                      |                  |                       |                  |
| Brain   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                |                       |                  |
| <b>RESPIRATORY SYSTEM</b>   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |           |                      |                  |                       |                  |
| Larynx  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | I                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +         | +                    | +                |                       |                  |

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

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A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

| B6C3F1 MICE FEMALE  | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   | ANIMAL ID | females<br>(cont...) |   |   |  |  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|---|-----------|----------------------|---|---|--|--|
|   | 0<br>3<br>5<br>4 | 0<br>7<br>3<br>2 | 0<br>6<br>6<br>3 | 0<br>7<br>3<br>2 | 0<br>6<br>1<br>8 | 0<br>7<br>0<br>9 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>5<br>7<br>1 | 0<br>6<br>1<br>8 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>6<br>3<br>0 | 0<br>7<br>3<br>3 | 0<br>7<br>3<br>4 | 0<br>5<br>0<br>4 | 0<br>6<br>8<br>4 | 0<br>6<br>6<br>0 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>5<br>0<br>5 | 0<br>5<br>3<br>3 | 0<br>7<br>3<br>1 |   |   |           |                      |   |   |  |  |
| Inflammation, Suppurative                                     |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |                  |   |   |           |                      |   |   |  |  |
| Inflammation, Chronic Active                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Respiratory Epithelium, Metaplasia, Squamous                  | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1                | 1 |   |           |                      |   |   |  |  |
| Respiratory Epithelium, Vacuolization<br>Cytoplasmic          | 1                | 1                | 1                | 1                |                  | 1                | 1                | 1                | 1                |                  |                  |                  | 1                | 1                |                  |                  | 1                | 1                | 1                | 1                |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Squamous Epithelium, Erosion                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Squamous Epithelium, Hyperplasia                              | 1                |                  |                  |                  | 1                |                  |                  |                  | 1                | 1                | 1                |                  |                  |                  | 1                |                  |                  |                  | 1                |                  |                  |                  | 1                |   |   |           |                      |   |   |  |  |
| Lung  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Inflammation, Suppurative                                     | 2                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + |   |           |                      |   |   |  |  |
| Proteinosis   | 3                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 4                | 3                | 3                | 4                | 4                | 4                | 4                | 4                | 4 |   |           |                      |   |   |  |  |
| Alveolar/bronchiolar Epithelium, Hyperplasia                  | 2                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 3                | 2                | 3                | 2                | 2                | 3                | 2                | 3                | 3                | 3                | 2                | 2                | 3                | 3                | 2                | 2 | 3 |           |                      |   |   |  |  |
| Alveolar/bronchiolar Epithelium, Vacuolization<br>Cytoplasmic | 4                | 4                | 3                | 3                | 3                | 3                | 3                | 4                | 4                | 2                | 4                | 3                | 3                | 3                | 4                | 4                | 4                | 4                |                  | 2                | 4                | 4                | 3                | 4 | 4 |           |                      |   |   |  |  |
| Alveolar Epithelium, Hyperplasia                              |                  |                  |                  | 1                |                  |                  | 1                | 1                |                  |                  |                  | 1                | 1                | 1                | 1                | 4                | 1                | 1                | 1                | 1                | 1                | 4                | 1                | 1 | 1 | 1         |                      |   |   |  |  |
| Alveolar Epithelium, Metaplasia, Squamous                     |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Alveolus, Infiltration Cellular, Histiocyte                   | 1                | 2                | 4                | 2                | 3                | 3                | 2                | 3                | 4                | 4                | 3                | 3                | 3                | 3                | 3                | 2                | 4                | 4                | 4                | 3                | 4                | 4                | 2                | 3 | 3 | 3         |                      |   |   |  |  |
| Bronchiole, Epithelium, Erosion                               |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Bronchiole, Epithelium, Hyperplasia                           | 1                | 2                | 2                |                  |                  |                  | 1                | 1                | 1                | 1                |                  |                  |                  | 1                | 1                | 4                |                  |                  |                  | 1                |                  |                  |                  | 1 |   |           |                      |   |   |  |  |
| Nose  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Inflammation, Suppurative                                     | 2                | 4                | 4                | 3                | 4                | 3                | 4                | 3                | 3                | 4                | 3                | 3                | 2                | 4                | 3                | 4                | 4                | 4                | 4                | 3                | 3                | 3                | 3                | 3 | 2 |           |                      |   |   |  |  |
| Olfactory Epithelium, Atrophy                                 | 2                | 1                |                  |                  |                  | 1                | 1                | 1                |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  | 1                | 2                |                  |                  |                  | 1 |   |           |                      | 1 | 1 |  |  |
| Olfactory Epithelium, Hyperplasia                             | 1                |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  | 1                |                  |                  |   | 1 |           |                      |   | 1 |  |  |
| Olfactory Epithelium, Metaplasia, Respiratory                 | 4                | 3                | 4                | 4                | 4                | 3                | 3                | 3                | 3                | 4                | 3                | 4                | 3                | 4                | 3                | 4                | 3                | 2                | 4                | 3                | 4                | 3                | 2                | 2 | 2 |           |                      |   |   |  |  |
| Olfactory Epithelium, Metaplasia, Squamous                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Olfactory Epithelium, Respiratory Metaplasia,<br>Atypical     |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |   |           |                      |   |   |  |  |
| Respiratory Epithelium, Accumulation, Hyaline<br>Droplet      |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 1                |                  |                  |   |   |           |                      |   |   |  |  |
| Respiratory Epithelium, Hyperplasia                           | 1                |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  |                  |                  |                  | 1                |                  |                  |                  | 1                | 1                |                  |                  |                  | 1 | 1 |           |                      |   |   |  |  |

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

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1) Minimal 3) Moderate

2) Mild 4) Marked

| B6C3F1 MICE FEMALE<br>5.0 mg/m3                                    | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |                       | ANIMAL ID             | females<br>(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|-----------------------|-----------------------|----------------------|
|  | 0<br>3<br>5<br>4 | 0<br>7<br>3<br>2 | 0<br>6<br>6<br>3 | 0<br>7<br>3<br>2 | 0<br>6<br>1<br>8 | 0<br>7<br>0<br>9 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>5<br>7<br>1 | 0<br>6<br>3<br>8 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>1 | 0<br>6<br>3<br>0 | 0<br>7<br>3<br>3 | 0<br>5<br>5<br>4 | 0<br>6<br>0<br>4 | 0<br>6<br>8<br>4 | 0<br>6<br>6<br>0 | 0<br>7<br>3<br>2 | 0<br>7<br>3<br>3 | 0<br>5<br>0<br>5 | 0<br>5<br>3<br>3 | 0<br>7<br>3<br>1 |   |                       |                       |                      |
| Respiratory Epithelium, Metaplasia, Squamous                       | 1                | 1                | 1                | 1                | 2                | 1                | 2                | 2                | 2                | 2                | 2                | 2                | 1                | 1                | 1                | 2                | 1                | 2                | 2                | 1                | 2                | 2                | 1                | 2 | 1                     | 0<br>0<br>7<br>0<br>1 | females<br>(cont...) |
| Respiratory Epithelium, Vacuolization<br>Cytoplasmic               | 1                | 1                | 1                | 1                |                  | 1                | 1                | 2                | 1                | 2                | 1                |                  | 2                | 1                | 1                | 2                | 2                | 1                | 1                | 2                | 1                | 1                | 1                | 1 | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Squamous Epithelium, Erosion                                       | 1                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Turbinate, Atrophy   | 3                | 2                | 3                | 3                | 3                | 4                | 2                | 2                | 3                | 4                | 2                | 4                | 4                | 3                | 3                | 4                | 3                | 4                | 4                | 3                | 4                | 3                | 3                | 3 | 4                     | 0<br>0<br>7<br>0<br>1 | females<br>(cont...) |
| Pleura   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Trachea  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Inflammation, Suppurative<br>Epithelium, Vacuolization Cytoplasmic |                  |                  | 2                | 1                | 1                | 2                | 2                | 2                |                  | 2                | 2                | 2                | 1                | 2                | 2                | 2                | 1                | 2                | 1                |                  | 2                | 2                |                  |   | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| <b>SPECIAL SENSES SYSTEM</b>                                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |                       |                       |                      |
| Eye  | +                | +                | +                | +                | +                | A                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Harderian Gland  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| <b>URINARY SYSTEM</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |   |                       |                       |                      |
| Kidney   | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Infarct  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 3                |                  |   | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Nephropathy  |                  | 1                |                  |                  | 1                |                  |                  |                  | 1                | 1                |                  |                  |                  | 1                |                  |                  | 1                |                  | 1                |                  | 1                |                  | 1                |   | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |
| Urinary Bladder  | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | +                | + | 0<br>0<br>7<br>0<br>1 | females<br>(cont...)  |                      |

\* .. 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

TDMS No. 60311 - 06  
 Test Type: CHRONIC  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 09/08/2011  
 Time Report Requested: 08:23:28  
 First Dose M/F: 05/15/06 / 05/15/06  
 Lab: BNW

|                           |             |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                 |
|---------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| <b>B6C3F1 MICE FEMALE</b> | DAY ON TEST | 0<br>7<br>3<br>2      | 0<br>6<br>1<br>0      | 0<br>7<br>3<br>2      | 0<br>5<br>0<br>6      | 0<br>7<br>1<br>3      | 0<br>7<br>3<br>2      | 0<br>6<br>8<br>4      | 0<br>5<br>4<br>2      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>3      | 0<br>6<br>4<br>5      | 0<br>7<br>3<br>8      | 0<br>7<br>4<br>2      | 0<br>6<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>7<br>7<br>2      | 0<br>6<br>9<br>3      | 0<br>5<br>6<br>2      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>2      | 0<br>7<br>3<br>3      | 0<br>7<br>3<br>1      | <b>* TOTALS</b> |
|                           | ANIMAL ID   | 0<br>0<br>7<br>2<br>6 | 0<br>0<br>7<br>2<br>7 | 0<br>0<br>7<br>2<br>8 | 0<br>0<br>7<br>2<br>9 | 0<br>0<br>7<br>3<br>0 | 0<br>0<br>7<br>3<br>1 | 0<br>0<br>7<br>3<br>2 | 0<br>0<br>7<br>3<br>3 | 0<br>0<br>7<br>3<br>3 | 0<br>0<br>7<br>3<br>4 | 0<br>0<br>7<br>3<br>5 | 0<br>0<br>7<br>3<br>6 | 0<br>0<br>7<br>3<br>7 | 0<br>0<br>7<br>4<br>8 | 0<br>0<br>7<br>4<br>9 | 0<br>0<br>7<br>4<br>0 | 0<br>0<br>7<br>4<br>1 | 0<br>0<br>7<br>4<br>2 | 0<br>0<br>7<br>4<br>3 | 0<br>0<br>7<br>4<br>4 | 0<br>0<br>7<br>4<br>5 | 0<br>0<br>7<br>4<br>6 | 0<br>0<br>7<br>4<br>7 |                 |

**ALIMENTARY SYSTEM**

|                            |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                    |
|----------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------|
| Esophagus                  | +         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>50</b>          |
| Gallbladder                | + A + + + + + + + + M + + + + + + + + + + M + + + + + + + + |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>46</b>          |
| Intestine Large, Cecum     | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>48</b>          |
| Intestine Large, Colon     | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |
| Intestine Large, Rectum    | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |
| Intestine Small, Duodenum  | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |
| Intestine Small, Ileum     | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |
| Intestine Small, Jejunum   | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |
| Liver                      | +         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>50</b>          |
| Basophilic Focus           |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>1</b>           |
| Hepatodiaphragmatic Nodule |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>1</b>           |
| Necrosis                   | 1   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>1 1.0</b>       |
| Tension Lipidosis          |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>2 1.5</b>       |
| Vacuolization Cytoplasmic  | 2   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>1 2.0</b>       |
| Bile Duct, Cyst            |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>1 4.0</b>       |
| Mesentery                  | +         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>8</b>           |
| Fat, Necrosis              | 2   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>2 2 2 8 2.0</b> |
| Pancreas                   | + A +     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <b>49</b>          |

\* .. 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

| B6C3F1 MICE FEMALE           | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | * TOTALS |       |
|------------------------------|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|----------|-------|
|                              | 0732        | 0610 | 0713 | 0500 | 0711 | 0713 | 0608 | 0504 | 0702 | 0703 | 0703 | 0604 | 0703 | 0407 | 0703 | 0604 | 0703 | 0703 | 0703 | 0607 | 0505 | 0506 | 0703 | 0703  |          |       |
| 5.0 mg/m3                    | ANIMAL ID   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | * TOTALS |       |
|                              | 0072        | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077 | 0077  |          |       |
| Atrophy                      | 1           |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 1 1.0    |       |
| Salivary Glands              | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +     | 50       |       |
| Stomach, Forestomach         | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +     | 50       |       |
| Hyperplasia, Squamous        |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2    |      |      |      |       | 1 2.0    |       |
| Metaplasia, Hepatocyte       |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 3        | 1 3.0 |
| Stomach, Glandular           | +           | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 49    |          |       |
| <b>CARDIOVASCULAR SYSTEM</b> |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |          |       |
| Heart                        | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 50    |          |       |
| Cardiomyopathy               |             |      |      |      |      | 1    |      |      |      |      | 1    |      |      |      |      |      |      |      |      |      | 1    | 1    |      | 9 1.0 |          |       |
| Inflammation, Suppurative    |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1 2.0 |          |       |
| Necrosis                     |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 2     | 1 2.0    |       |
| Thrombosis                   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 1 3.0    |       |
| <b>ENDOCRINE SYSTEM</b>      |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |          |       |
| Adrenal Cortex               | +           | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 48    |          |       |
| Hyperplasia                  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | 1    |      |      | 2     | 3 1.7    |       |
| Adrenal Medulla              | +           | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 48    |          |       |
| Hyperplasia                  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 1 2.0    |       |
| Islets, Pancreatic           | +           | A    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | 49    |          |       |
| Hyperplasia                  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | 1 2.0    |       |
| Parathyroid Gland            | M           | M    | +    | +    | +    | +    | +    | M    | M    | +    | +    | +    | M    | M    | +    | M    | +    | +    | +    | I    | +    | +    | +    | 32    |          |       |

\* .. 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

| B6C3F1 MICE FEMALE<br>5.0 mg/m3                    | 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 | * TOTALS    |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------------|
|  | ANIMAL ID   | 7 | 6 | 7 | 5 | 7 | 7 | 6 | 5 | 7 | 7 | 7 | 6 | 7 | 4 | 7 | 6 | 7 | 7 | 7 | 6 | 5 | 5 | 7 | 7 |             |
| Pituitary Gland<br>Pars Distalis, Hyperplasia      | M           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49<br>5 2.2 |
| Thyroid Gland                                      | +           | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49          |
| <b>GENERAL BODY SYSTEM</b>                         |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |             |
| NONE   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |             |
| <b>GENITAL SYSTEM</b>                              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |             |
| Clitoral Gland                                     | +           | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | 43          |
| Ovary  | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50          |
| Angiectasis  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 3.0       |
| Cyst   |             |   |   |   | 2 |   |   |   |   | 3 | 4 |   |   |   |   |   |   |   |   | 2 |   |   | 2 |   |   | 10 2.6      |
| Inflammation, Suppurative                          |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 3.0       |
| Uterus   | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50          |
| Thrombosis   |             |   | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 1 2.0       |
| Endometrium, Hyperplasia, Cystic                   | 2           |   |   | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | 2 |   | 1 | 3 | 2 | 3 | 3 | 3 | 4 |   | 1 | 34 2.2      |
| <b>HEMATOPOIETIC SYSTEM</b>                        |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |             |
| Bone Marrow  | +           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50          |
| Lymph Node   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |   | 1           |
| Lymph Node, Bronchial<br>Inflammation, Suppurative | +           | M | + | + | M | M | M | + | + | + | M | + | M | + | + | M | + | M | M | M | M | M | + | M | M | 22<br>1 4.0 |

\* .. 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

| B6C3F1 MICE FEMALE<br>5.0 mg/m3   | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS    |                      |  |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|----------------------|--|
|   | 0732        | 0610  | 0732  | 0506  | 0772  | 0776  | 0658  | 0574  | 0773  | 0773  | 0664  | 0774  | 0773  | 0437  | 0763  | 0674  | 0773  | 0773  | 0773  | 0676  | 0559  | 0556  | 0773  | 0773  |             | 0773                 |  |
| ANIMAL ID   | 00726       | 00727 | 00728 | 00729 | 00730 | 00731 | 00732 | 00733 | 00734 | 00735 | 00736 | 00737 | 00738 | 00739 | 00740 | 00741 | 00742 | 00743 | 00744 | 00745 | 00746 | 00747 | 00748 | 00749 | 00750       |                      |  |
| Lymph Node, Mandibular  | M           | M     | +     | M     | +     | +     | M     | +     | M     | +     | +     | +     | M     | M     | +     | M     | +     | +     | +     | +     | +     | M     | M     | M     | +           | 31                   |  |
| Lymph Node, Mediastinal<br>Hyperplasia, Lymphoid<br>Inflammation, Suppurative | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 46<br>1 4.0<br>1 4.0 |  |
| Lymph Node, Mesenteric  | +           | +     | M     | +     | +     | +     | +     | +     | +     | +     | +     | I     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 47          |                      |  |
| Spleen<br>Hematopoietic Cell Proliferation                                    | +           | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 49<br>1 2.0 |                      |  |
| Thymus<br>Hyperplasia, Lymphoid   | +           | +     | +     | +     | +     | +     | M     | +     | +     | +     | +     | M     | I     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 46<br>1 4.0 |                      |  |
| <b>INTEGUMENTARY SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |             |                      |  |
| Mammary Gland   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 50                   |  |
| Skin  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 50                   |  |
| <b>MUSCULOSKELETAL SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |             |                      |  |
| Bone  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 50                   |  |
| <b>NERVOUS SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |             |                      |  |
| Brain   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 50                   |  |
| <b>RESPIRATORY SYSTEM</b>   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |             |                      |  |
| Larynx  | +           | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +           | 47                   |  |

\* .. 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

| B6C3F1 MICE FEMALE   | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    | * TOTALS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----|----------|
|  | 0732        | 0610  | 0732  | 0501  | 0732  | 0674  | 0584  | 0732  | 0732  | 0732  | 0674  | 0732  | 0474  | 0732  | 0674  | 0732  | 0732  | 0674  | 0584  | 0584  | 0732  | 0732  | 0732  |    |          |
| 5.0 mg/m3  | ANIMAL ID   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    |          |
|  | 00726       | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 | 00077 |    |          |
| Inflammation, Suppurative                                  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 2  | 1.0      |
| Inflammation, Chronic Active                               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1  | 1.0      |
| Respiratory Epithelium, Metaplasia, Squamous               | 1           |       | 2     | 2     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 47 | 1.1      |
| Respiratory Epithelium, Vacuolization Cytoplasmic          | 1           |       | 1     | 1     | 1     | 1     | 1     | 1     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 34 | 1.0      |
| Squamous Epithelium, Erosion                               |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 4  | 1.0      |
| Squamous Epithelium, Hyperplasia                           | 1           |       | 1     |       |       | 1     | 2     | 1     |       |       |       |       | 1     |       |       |       |       |       |       |       |       |       |       | 21 | 1.0      |
| Lung   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Inflammation, Suppurative                                  | 3           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 15 | 1.7      |
| Proteinosis  | 4           | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 4     | 50 | 3.9      |
| Alveolar/bronchiolar Epithelium, Hyperplasia               | 3           | 2     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 3     | 2     | 3     | 3     | 3     | 2     | 3     | 2     | 3     | 2     | 2     | 3     | 3     | 50 | 2.7      |
| Alveolar/bronchiolar Epithelium, Vacuolization Cytoplasmic | 3           | 4     | 4     | 4     | 3     | 4     | 4     | 4     | 4     | 4     | 3     |       | 4     | 3     | 3     | 3     | 4     | 2     | 4     | 3     | 3     | 2     | 4     | 48 | 3.5      |
| Alveolar Epithelium, Hyperplasia                           | 1           | 4     | 4     | 1     | 1     | 1     | 2     | 1     | 1     | 1     | 4     | 1     | 1     | 1     | 1     |       |       |       |       |       |       |       |       | 41 | 1.4      |
| Alveolar Epithelium, Metaplasia, Squamous                  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1  | 1.0      |
| Alveolus, Infiltration Cellular, Histiocyte                | 3           | 4     | 2     | 3     | 4     | 3     | 3     | 3     | 3     | 4     | 4     |       | 4     | 3     | 2     | 4     | 3     | 2     | 3     | 2     | 3     | 4     | 4     | 49 | 3.1      |
| Bronchiole, Epithelium, Erosion                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 3  | 1.0      |
| Bronchiole, Epithelium, Hyperplasia                        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 26 | 1.2      |
| Nose   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | 50 |          |
| Inflammation, Suppurative                                  | 2           | 4     | 3     | 4     | 4     | 3     | 4     | 4     | 3     | 3     | 3     | 4     | 4     | 3     | 2     | 3     | 4     | 4     | 3     | 3     | 3     | 3     | 4     | 50 | 3.3      |
| Olfactory Epithelium, Atrophy                              |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 24 | 1.2      |
| Olfactory Epithelium, Hyperplasia                          |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 8  | 1.0      |
| Olfactory Epithelium, Metaplasia, Respiratory              | 4           | 1     | 3     | 3     | 4     | 2     | 4     | 3     | 3     | 3     | 3     | 4     | 4     | 3     | 4     | 4     | 4     | 4     | 4     | 3     | 4     | 3     | 4     | 50 | 3.3      |
| Olfactory Epithelium, Metaplasia, Squamous                 |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1  | 2.0      |
| Olfactory Epithelium, Respiratory Metaplasia, Atypical     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1  | 1.0      |
| Respiratory Epithelium, Accumulation, Hyaline Droplet      |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 10 | 1.0      |
| Respiratory Epithelium, Hyperplasia                        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 9  | 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



| B6C3F1 MICE FEMALE<br>5.0 mg/m3                      | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | * TOTALS |       |      |           |            |            |            |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|------|-----------|------------|------------|------------|
|  | 0732        | 0610  | 0732  | 0573  | 0776  | 0658  | 0542  | 0774  | 0773  | 0647  | 0774  | 0773  | 0473  | 0776  | 0673  | 0773  | 0773  | 0676  | 0555  | 0557  |          |       | 0777 | 0777      |            |            |            |
| ANIMAL ID  | 00726       | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777 | 00777    | 00777 |      |           |            |            |            |
| Respiratory Epithelium, Metaplasia, Squamous         | 2           | 2     | 2     | 2     | 1     | 1     | 1     | 2     | 1     | 1     | 2     | 2     | 2     | 1     | 1     | 1     | 1     | 2     | 2     | 2     | 1        | 1     | 1    | 2         | 2          | <b>50</b>  | <b>1.5</b> |
| Respiratory Epithelium, Vacuolization<br>Cytoplasmic | 1           | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1     | 1        | 1     | 2    | 1         | <b>47</b>  | <b>1.1</b> |            |
| Squamous Epithelium, Erosion                         | 1           | 1     |       |       |       |       |       |       |       |       | 1     |       |       | 1     |       |       |       |       |       |       |          |       |      |           | <b>5</b>   | <b>1.0</b> |            |
| Turbinate, Atrophy                                   | 4           | 2     | 4     | 3     | 4     | 3     | 4     | 4     | 3     | 4     | 3     | 4     | 4     | 3     | 4     | 4     | 3     | 3     | 4     | 4     | 3        | 4     | 4    | 4         | <b>50</b>  | <b>3.4</b> |            |
| Pleura   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |           |            | <b>1</b>   |            |
| Trachea  | +           | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +    | <b>49</b> |            |            |            |
| Inflammation, Suppurative                            | 1           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |           | <b>1</b>   | <b>1.0</b> |            |
| Epithelium, Vacuolization Cytoplasmic                | 2           |       | 2     | 1     | 2     | 2     |       | 2     | 2     | 2     | 2     | 2     |       | 1     |       | 2     | 2     | 2     | 2     | 1     |          | 2     | 1    | 2         | <b>39</b>  | <b>1.8</b> |            |
| <b>SPECIAL SENSES SYSTEM</b>                         |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |           |            |            |            |
| Eye  | +           | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +    | <b>48</b> |            |            |            |
| Harderian Gland                                      | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +    | <b>50</b> |            |            |            |
| <b>URINARY SYSTEM</b>                                |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      |           |            |            |            |
| Kidney   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +    | <b>50</b> |            |            |            |
| Infarct  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |          |       |      | <b>1</b>  | <b>3.0</b> |            |            |
| Nephropathy  | 1           |       | 1     |       |       |       | 1     |       | 1     |       |       |       |       | 1     |       | 1     |       |       | 1     | 1     |          | 1     | 1    | 1         | <b>19</b>  | <b>1.0</b> |            |
| Urinary Bladder                                      | +           | A     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +        | +     | +    | <b>49</b> |            |            |            |

\*\*\* END OF REPORT \*\*\*

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+ .. Tissue examined microscopically

X .. Lesion present

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M .. Missing tissue

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1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

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