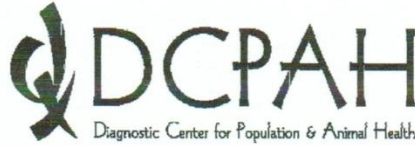


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REPORT OF LABORATORY EXAMINATION

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Client: White Shepherd Genetics (295483)  
Project  
PO Box 2068  
Howell, MI 48844-2068

Owner: Jones, Julie  
4390 Robertson Road  
Middleville MI 49333

Rcvd Date: 11/30/2009 11:35:00 AM  
Admitted By: Not, Provided  
Ordered By: N/A  
Encounter: 00900177  
CR#: AP 933411253

Animal: BEAR  
Species: Canine  
Age: 5 years  
Tag/Reg ID:  
Other ID:

MRN:  
Breed: German Shepherd  
Gender: Male, Castrated

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**A d d i t i o n a l F i n d i n g s**

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Accession Number: NC-09-0001570      Received Date/Time: 11/30/2009 11:36:00 AM      Verified Date/Time: 12/21/2009 10:21:43 AM      Pathologist: Williams, Kurt J.

**Additional Findings**

**Sections of kidney were positive by fluorescent antibody (FA) for *Leptospira* spp.**

**Diagnosis(es)**

Leptospirosis

**Comments:**

Special stains confirm *Leptospira* spp. infection in this case.

Karla Fenton DVM, MS

Kurt J. Williams, DVM, PhD, DACVP

(Electronically signed by) KJW

Verified: 12.21.2009 10:21

KJW /KAF

Accession Number: NC-09-0001570      Received Date/Time: 11/30/2009 11:36:00 AM      Verified Date/Time: 12/14/2009 05:36:33 PM      Pathologist: Williams, Kurt J.

**Additional Findings**

**Renal tubules were positive for *Leptospira* spp. antigen by immunohistochemistry.**

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L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote

Admitted By: Not, Provided	Species: Canine	MRN:
Encounter: 00900177	Animal: BEAR	Owner: Jones, Julie

### A d d o n d u m R e p o r t

Accession Number: NC-09-0001570	Received Date/Time: 11/30/2009 11:36:00 AM	Verified Date/Time: 12/14/2009 05:36:33 PM	Pathologist: Williams, Kurt J.
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**Numerous spirochetal organisms were seen within renal tubules on Warthin-Starry stained sections of the kidney.**

#### Diagnosis(es)

Leptospirosis

#### Comments:

Special stains confirm *Leptospira spp.* infection in this case.

Karla Fenton DVM, MS

Kurt J. Williams, DVM, PhD, DACVP

(Electronically signed by) KJW

Verified: 12.14.2009 17:36

KJW /KAF

### N e c r o p s y P r e l i m i n a r y R e p o r t

Accession Number: NC-09-0001570	Received Date/Time: 11/30/2009 11:36:00 AM	Verified Date/Time: 12/01/2009 05:31:05 PM	Pathologist: Williams, Kurt J.
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#### History

An approximately 5 year-old dog with a history of lethargy and anorexia followed by vomiting and elevated BUN was euthanized and submitted for evaluation. Additional history is on file at DCPAH.

#### Gross Description

The body of a mildly autolyzed, 29.75 kg, castrated male German Shepherd in good body condition (body condition score = 5/9) and hydration status was examined.

On external exam, the hair coat was clipped over the left antebrachium (4cm x 5cm) and there was a moderate amount of brown mucoid fecal material covering the perianal region.

There was a small amount of white foam within the distal one third of the trachea. The lungs were diffusely mottled bright red with dark red patches with clear foam oozing from the cut surface when compressed. The pericardial sac contained approximately 10mls of a red tinged watery fluid; no other lesions were noted within the heart.

L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote

Admitted By: Not, Provided	Species: Canine	MRN:
Encounter: 00900177	Animal: BEAR	Owner: Jones, Julie

### **N E C R O P S Y P R E L I M I N A R Y R E P O R T**

Accession Number: NC-09-0001570	Received Date/Time: 11/30/2009 11:36:00 AM	Verified Date/Time: 12/01/2009 05:31:05 PM	Pathologist: Williams, Kurt J.
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The mucosa of the stomach in the pyloric region had approximately five 2-5mm areas of dark red discoloration and scant amount (less than 10mls) of brown mucoid contents. The proximal portions of the duodenal mucosa and the left lobe of the pancreas were dark red.

Both kidneys had similar lesions. The capsular surface of the kidneys had prominent raised dark red vessels. The subcapsular surfaces were mottled dark red with dozens of tan foci scattered throughout. On the cut surface there was a 3-4mm uniform pale white, swollen, firm, continuous band at the corticomedullary junction and there were multiple (two in each kidney), irregularly shaped foci (approximately 1.5cm x 1cm) of dark red discoloration with in the medulla near the papillary crests. A 1mm white, firm focus was also present with in the corticomedullary junction of the right kidney.

#### **Morphologic Diagnosis:**

Kidney (Bilateral): Severe acute, diffuse corticomedullary interstitial nephritis (presumptive); Acute, multifocal medullary hemorrhage and necrosis

#### **Gross Diagnosis(es)**

##### **Acute Renal Disease**

##### **Comments:**

Gross findings are suggestive of acute renal disease. The exact cause of the gross lesions is not known at this time. Possible causes include infectious and toxic agents. Histopathology is pending to better characterize the gross lesions.

Karla Fenton DVM, MS

Kurt J. Williams, DVM, PhD, DACVP

(Electronically signed by) KJW

Verified: 12.01.2009 17:31

KJW /KAF

### **N E C R O P S Y F I N A L R E P O R T**

Accession Number: NC-09-0001570	Received Date/Time: 11/30/2009 11:36:00 AM	Verified Date/Time: 12/05/2009 10:21:30 AM	Pathologist: Williams, Kurt J.
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#### **Laboratory Findings**

FA on kidney is pending.

L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote

Print Date/Time: 12/21/2009 10:38 AM

Page 3 of 5



Admitted By: Not, Provided	Species: Canine	MRN:
Encounter: 00900177	Animal: BEAR	Owner: Jones, Julie

## ***Necropsy Final Report***

Accession Number: NC-09-0001570      Received Date/Time: 11/30/2009 11:36:00 AM      Verified Date/Time: 12/05/2009 10:21:30 AM      Pathologist: Williams, Kurt J.

### **Microscopic Description**

Sections of kidney, liver, tongue, and small intestine were examined. Sections of kidney were characterized by a marked inflammatory infiltrate diffusely throughout the corticomedullary region and multifocally within the cortex. The inflammatory infiltrate was mainly lymphocytes and plasma cells with moderate amounts of scattered and occasionally aggregated neutrophils. Similar inflammatory infiltrate were scattered diffusely throughout the medulla and within occasional renal tubules. In sections of intense inflammatory infiltrate at the corticomedullary region, normal renal architecture is markedly disrupted. The renal tubules were degenerative and characterized by swollen cells, pyknotic nuclei, and sloughing of cells into the lumen. Within the cortex the infiltrate remained within the interstitium, leaving the glomeruli largely unaffected.

All other organs were histologically unremarkable.

### **Morphologic Diagnosis(es)**

Kidney: Severe, bilateral, acute, neutrophilic and lymphoplasmacytic tubulointerstitial nephritis

### **Final Diagnosis(es)**

#### **Leptospirosis**

#### **Comments:**

The histologic findings within the kidney, in conjunction with the clinical signs of renal failure, are consistent Leptospirosis. Leptospirosis is a zoonotic bacterial infection. Because of this, individuals in contact with this dog prior to its death should seek medical attention if they are feeling unwell. Additional testing to identify the causative agent is pending. These results will be forthcoming in an addendum report.

Karla Fenton DVM, MS

Kurt J. Williams, DVM, PhD, DACVP

(Electronically signed by) KJW

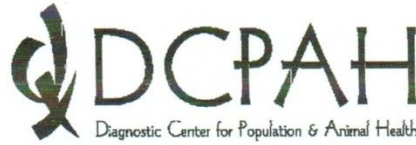
Verified: 12.05.2009 10:21

KJW /KAF

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REPORT OF LABORATORY EXAMINATION

Client:	White Shepherd Genetics (295483)	Owner:	Jones, Julie 4390 Robertson Road Middleville MI 49333
Rcvd Date:	12/3/2009 3:15:00 PM	Animal:	BEAR
Admitted By:	Williams, Kurt J.	Species:	Canine
Ordered By:	N/A	Age:	5 years
Encounter:	00902302	Tag/Reg ID:	
CR#:	GL 933411253	Other ID:	
		MRN:	
		Breed:	German Shepherd
		Gender:	Male, Castrated

**General Microbiology**

**Organism Detection**

Collected Date/Time (If Provided)	12/03/2009 15:16:00
Procedure	
Tissue Specimen	Kidney
Leptospira by FA - Tissue	Positive by PCR

L = Low Result; H = High Result; @ = Critical Result; ^ = Corrected Result; \* = Interpretive Data; # = Result Footnote