Veterinary Diagnostic Laboratory

UNIVERSITY OF MINNESOTA
Driven to Discover℠

Veterinary Diagnostic Laboratory
College of Veterinary Medicine
1333 Gortner Avenue
St. Paul, MN 55108

Diagnostic Summary Report

800-605-8787
612-625-8787
Fax: 612-624-8707
e-mail: vdl@umn.edu

Accession Number: D19-004924

Received Date: 02/11/2019

Reference:

Premises ID:

Date(s) Sampled:

Submitted by: Michelle Carstensen
Department of Natural Resources-Wildlife
5463-C West Broadway
Forest Lake, MN 55025
US

Owner: MN DNR WILD
FOREST LAKE, MN 55025

Site:

Species: Cervidae

Breed: White-tailed Deer

Age: Adult **Sex:** Female

Weight: 100 lbs

Status: Final
Preliminary: 02/15/2019 14:52:00
Preliminary: 02/26/2019 16:21:00
Final: 03/04/2019 11:09:00

History: This adult free ranging female white tailed deer (012319NT1) was found dead on January 23, 2019. The animal was frozen in an outside dumpster ever since. The necropsy was performed by Dr. Arno Wuenschmann on February 14, 2019 between 10.30 and 11.30AM on the necropsy floor of the Minnesota Veterinary Diagnostic Laboratory.

Specimen: The whole carcass of a female adult white tailed underwent necropsy in a state of fair to poor postmortem preservation. The rostral aspect of the mandible was missing (apparently sawed off). The throat latch region was incised. The soft tissues of the throat latch region were largely severed so that e.g. the tonsils were no longer identifiable (presumably due to the prior removal of the retropharyngeal lymph nodes for chronic wasting disease testing).

Necropsy: General Findings: The animal was cachectic based on the absence of any significant subcutaneous and intracavitary adipose (BW: 45kg). The bone marrow was dark red and gelatinous.

Integumentary system: The animal had areas of hair loss and the head, including ears.

Body cavities: There were no significant macroscopic lesions.

Respiratory system: The right cranial lung lobe had well demarcated dark red, slightly depressed areas. These areas comprised less than 15% of the cranial lung lobe.

Cardiovascular system: There were no significant macroscopic lesions.

Alimentary system: The abomasum was markedly distended and impacted with with ingesta.

Urinary system: There were no significant macroscopic lesions.

Musculo-skeletal system: There were no significant macroscopic lesions.

Endocrine system: There were no significant macroscopic lesions.

Reproductive system: There were no significant macroscopic lesions.

Hemolymphatic system: There were no significant macroscopic lesions.

Nervous system: There were no significant macroscopic lesions.

Histopathology: Slide A: Optic nerves and spinal cord, no significant microscopic lesions (nsml); marked freeze thaw artifacts.

Slide B and C: Cerebellum, nsml; marked freeze thaw artifacts.

Slide D and E: Cerebrum, hippocampus and thalamus, nsml; marked freeze thaw artifacts.

Slide F: Lungs, aspiration pneumonia, acute, moderate; marked freeze thaw artifacts.

Liver, nsml; marked freeze thaw artifacts.

Slide G: Kidney, nsml; marked freeze thaw artifacts.

Slide H: Tongue and skeletal muscle (diaphragm), sarcocystosis, mild; marked freeze thaw artifacts.

Slide I: Thyroid gland, lymph nodes and spleen, nsml; marked freeze thaw artifacts.

Slide J: Adrenal gland and diaphyseal bone marrow, nsml; marked freeze thaw artifacts.

Immunohistochemistry: See D19-004926: Obex is positive for CWD prion protein..

Bacteriology: There was no significant growth from a sample of lung by aerobic culture.

Parasitology: Colonic content was negative for parasites by floatation analysis.

Diagnosis: Final

1. Emaciation.

2. Lung, aspiration pneumonia, suppurative, acute, moderate.

3. Abomasum, impaction, marked.

Comments: Emaciation may be the cause of death and may be the consequence of chronic wasting disease since other underlying causes of emaciation (such as e.g. significant endoparasitism) were not detected. The aspiration pneumonia did not appear to be of sufficient severity to have caused the death of the animal. I wonder however, whether the aspiration pneumonia may be secondary to the chronic wasting disease. Aspiration pneumonia is a common finding in deer with chronic wasting disease and is postulated to be due to impaired swallowing reflexes.

Dictated by: ARNO WUNSCHMANN, DVM, Dr. med.vet., Diplomate ACVP, PATHOLOGIST on 2/15 /2019 2:39 PM

Attending Specialist:

Electronically Signed By: ARNO WUNSCHMANN, DVM, Dr. med.vet., Diplomate ACVP, PATHOLOGIST on 3/4/2019 11:09 AM

Testing Summary

Laboratory/Procedure	Ordered	Count	Result	Quantifier	Interpretation	Result Value	Entered	Completed
Bacteriology								
Aerobic Culture-Lung	02/14/2019	1	No Sig Grwth				02/18/2019	02/18/2019
Salmonella sp. Culture-Lung	02/18/2019	1	No Salmonella isol.				02/18/2019	02/18/2019
Histology								
Embedding Tissue & Cut Section-Tissue	02/28/2019	1	Slide Prep Complete				02/28/2019	02/28/2019
H&E Slide Preparation-Tissue	02/22/2019	10	Slide Prep Complete				02/22/2019	02/22/2019
Necropsy								
Nec/Gen Exam Zoo/Exotic/Wildlife 21-100 lbs-N/A	02/14/2019	1	Animals Examined				02/14/2019	02/14/2019
Necropsy/Histopathology Only								
Histopathology-Tissue	02/14/2019	1	See report				02/14/2019	02/14/2019
Outsourced Lab Service								
Mycobacterium sp. culture-NVSL-Lymph Node	02/15/2019	1	*Incomplete*					
Outsource Preparation-Lymph Node	02/14/2019	1	Reference Lab				02/15/2019	02/15/2019
Parasitology								
Fecal Examination-Feces	02/14/2019	1	No ova, oocysts obs		Flotation		02/15/2019	02/15/2019

Veterinary Diagnostic Laboratory

UNIVERSITY OF MINNESOTA
Driven to Discover℠

Veterinary Diagnostic Laboratory
College of Veterinary Medicine
1333 Gortner Avenue
St. Paul, MN 55108

Diagnostic Detail Report

800-605-8787
612-625-8787
Fax: 612-624-8707
e-mail: vdl@umn.edu

Accession Number: D19-004924

Received Date: 02/11/2019

Reference:

Premises ID:

Date(s) Sampled:

Submitted by: Michelle Carstensen
Department of Natural Resources-Wildlife
5463-C West Broadway
Forest Lake, MN 55025
US

Owner: MN DNR WILD
FOREST LAKE, MN 55025

Site:

Species: Cervidae

Breed: White-tailed Deer

Age: Adult **Sex:** Female

Weight: 100 lbs

Status: Final
Preliminary: 02/15/2019 14:52:00
Preliminary: 02/26/2019 16:21:00
Final: 03/04/2019 11:09:00

History: This adult free ranging female white tailed deer (012319NT1) was found dead on January 23, 2019. The animal was frozen in an outside dumpster ever since. The necropsy was performed by Dr. Arno Wuenschmann on February 14, 2019 between 10.30 and 11.30AM on the necropsy floor of the Minnesota Veterinary Diagnostic Laboratory.

Specimen: The whole carcass of a female adult white tailed underwent necropsy in a state of fair to poor postmortem preservation. The rostral aspect of the mandible was missing (apparently sawed off). The throat latch region was incised. The soft tissues of the throat latch region were largely severed so that e.g. the tonsils were no longer identifiable (presumably due to the prior removal of the retropharyngeal lymph nodes for chronic wasting disease testing).

Necropsy: General Findings: The animal was cachectic based on the absence of any significant subcutaneous and intracavitary adipose (BW: 45kg). The bone marrow was dark red and gelatinous.

Integumentary system: The animal had areas of hair loss and the head, including ears.

Body cavities: There were no significant macroscopic lesions.

Respiratory system: The right cranial lung lobe had well demarcated dark red, slightly depressed areas. These areas comprised less than 15% of the cranial lung lobe.

Cardiovascular system: There were no significant macroscopic lesions.

Alimentary system: The abomasum was markedly distended and impacted with with ingesta.

Urinary system: There were no significant macroscopic lesions.

Musculo-skeletal system: There were no significant macroscopic lesions.

Endocrine system: There were no significant macroscopic lesions.

Reproductive system: There were no significant macroscopic lesions.

Hemolymphatic system: There were no significant macroscopic lesions.

Nervous system: There were no significant macroscopic lesions.

Histopathology: Slide A: Optic nerves and spinal cord, no significant microscopic lesions (nsml); marked freeze thaw artifacts.

Slide B and C: Cerebellum, nsml; marked freeze thaw artifacts.

Slide D and E: Cerebrum, hippocampus and thalamus, nsml; marked freeze thaw artifacts.

Slide F: Lungs, aspiration pneumonia, acute, moderate; marked freeze thaw artifacts.

Liver, nsml; marked freeze thaw artifacts.

Slide G: Kidney, nsml; marked freeze thaw artifacts.

Slide H: Tongue and skeletal muscle (diaphragm), sarcocystosis, mild; marked freeze thaw artifacts.

Slide I: Thyroid gland, lymph nodes and spleen, nsml; marked freeze thaw artifacts.

Slide J: Adrenal gland and diaphyseal bone marrow, nsml; marked freeze thaw artifacts.

Immunohistochemistry: See D19-004926: Obex is positive for CWD prion protein..

Bacteriology: There was no significant growth from a sample of lung by aerobic culture.

Parasitology: Colonic content was negative for parasites by floatation analysis.

Diagnosis: Final

1. Emaciation.

2. Lung, aspiration pneumonia, suppurative, acute, moderate.

3. Abomasum, impaction, marked.

Comments: Emaciation may be the cause of death and may be the consequence of chronic wasting disease since other underlying causes of emaciation (such as e.g. significant endoparasitism) were not detected. The aspiration pneumonia did not appear to be of sufficient severity to have caused the death of the animal. I wonder however, whether the aspiration pneumonia may be secondary to the chronic wasting disease. Aspiration pneumonia is a common finding in deer with chronic wasting disease and is postulated to be due to impaired swallowing reflexes.

Dictated by: ARNO WUNSCHMANN, DVM, Dr. med.vet., Diplomate ACVP, PATHOLOGIST on 2/15 /2019 2:39 PM

Attending Specialist:

Electronically Signed By: ARNO WUNSCHMANN, DVM, Dr. med.vet., Diplomate ACVP, PATHOLOGIST on 3/4/2019 11:09 AM

Laboratory/Procedure/Animal	Result	Entered	Completed
Bacteriology/Mycology			
Aerobic Culture - Lung			
1-P12319NT1/CRAD	No Significant Growth	02/18/2019	02/18/2019
Salmonella sp. Culture - Lung			
1-P12319NT1/CRAD	No Salmonella sp. Isolated	02/18/2019	02/18/2019
Histopathology			
Histopathology - Fixed Tissue			
1-P12319NT1/CRAD	Please view diagnostic report.	02/14/2019	02/14/2019
Outsourced Laboratory Services			
Mycobacterium sp. culture-NVSL - Lymph Node			
1-P12319NT1/CRAD		Incomplete	
Outsource Preparation - Lymph Node			
1-P12319NT1/CRAD	Sent To Reference Lab	02/15/2019	02/15/2019
Parasitology			
Fecal Examination - Feces			
1-P12319NT1/CRAD	No parasitic ova, oocysts or cysts observed Flotation	02/15/2019	02/15/2019

UNIVERSITY OF MINNESOTA
Veterinary Diagnostic Laboratory

1333 Gortner Avenue
St. Paul MN 55108
Ph: (612) 625-8787 / (800) 605-8787
Fax: (612) 624-8707
http://www.vdl.umn.edu

Aquaculture Report

Accession Number: D19-004924
Received Date: 02/11/2019
Submitting Clinic: Department of Natural Resources-Wildlife
5463-C West Broadway
Forest Lake MN 55025
Fax: (612) 123-4567
Owner: MN DNR WILD
Veterinarian: Michelle Carstensen
External Ref:
Site:
Premises:
Species: Cervidae
Pathologist: Dr. Arno Wunschmann
County: CROW WING

Pool No.	Id Number	Age	Breed	Aerobic Culture			
1	P12319NT1	Adult	White-tailed Deer	No Significant Growth			
GMT				N/A			
				HCR-02/18/2019			

Report Generated: 09:20 AM 03/07/2019

UNIVERSITY OF MINNESOTA
Veterinary Diagnostic Laboratory

1333 Gortner Avenue
St. Paul MN 55108
Ph: (612) 625-8787 / (800) 605-8787
Fax: (612) 624-8707
http://www.vdl.umn.edu

Bacteriology Report

Accession Number: D19-004924
Received Date: 02/11/2019
Submitting Clinic: Department of Natural Resource
5463-C West Broadway
Forest Lake, MN 55025
Owner: MN DNR WILD
Fax: (612) 123-4567
Veterinarian: Michelle Carstensen
External Ref:
Species: Cervidae
Site:
Pathologist: Dr. Arno Wunschmann
Premises:
County: CROW WING

	Units	Quantifier	Interpretation	Tech-Date

Animal
Number: 1
Identification: P12319NT1
Breed: White-tailed Deer
Description:

Aerobic Culture - Lung
No Significant Growth — HCR - 02/18/2019

Mycobacterium sp. culture-NVSL - Lymph Node
Results Pending

Salmonella sp. Culture - Lung
No Salmonella sp. Isolated — HCR - 02/18/2019

Report Generated: 09:20 AM 03/07/2019

UNIVERSITY OF MINNESOTA
Veterinary Diagnostic Laboratory

1333 Gortner Avenue
St. Paul MN 55108
Ph: (612) 625-8787 / (800) 605-8787
Fax: (612) 624-8707
http://www.vdl.umn.edu

Bacteriology Summary Report

Accession Number: D19-004924
Received Date: 02/11/2019
Submitting Clinic: Department of Natural Resources-Wildlife
5463-C West Broadway
Forest Lake MN 55025
Owner: MN DNR WILD
Veterinarian: Michelle Carstensen
Fax: (612) 123-4567
External Ref:
Species: Cervidae
Site:
Breed: White-tailed Deer
Premises:
Pathologist: Dr. Arno Wunschmann
County: CROW WING

Procedure	Result	Number of Tests
Aerobic Culture		
	1 No Significant Growth HCR-02/18/2019	1
Salmonella sp. Culture		
	1 No Salmonella sp. Isolated HCR-02/18/2019	1

*Test requested or specimen submission does not fully meet MVDL quality assurance criteria or standard operating procedures.

Report Generated: 09:20 AM 03/07/2019

UNIVERSITY OF MINNESOTA
Veterinary Diagnostic Laboratory

1333 Gortner Avenue
St. Paul MN 55108
Ph: (612) 625-8787 / (800) 605-8787
Fax: (612) 624-8707
http://www.vdl.umn.edu

Parasitology Report

Accession Number: D19-004924
Received Date: 02/11/2019
Submitting Clinic: Department of Natural Resource
5463-C West Broadway
Forest Lake, MN 55025
Owner: MN DNR WILD
Fax: (612) 123-4567
Veterinarian: Michelle Carstensen
External Ref:
Species: Cervidae
Site:
Pathologist: Dr. Arno Wunschmann
Premises:
County: CROW WING

	Units	Quantifier	Interpretation	Tech-Date

Animal
Number: 1
Identification: P12319NT1
Breed: White-tailed Deer
Description:

Fecal Examination - Feces

No parasitic ova, oocysts or cysts observed		Flotation	SMP - 02/15/2019

Report Generated: 09:20 AM 03/07/2019