

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

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=====
LOXODONTA AFRICANA (no subsp)      Sex: Female      Acc. #: 102529
African elephant                   Age: 39Y Est.    Birth: 1.Jul.1968
Name: LADY
=====

```

Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

```

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Date of Collection: 12.Oct.2005
Time of Collection: 9:00.0
Collected by:
Sample Collection Site: EAR VEIN

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Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 13.Oct.2005
Time of Analysis:
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	<	7.2		*10 ³ /UL
RED BLOOD CELL COUNT		3.3		*10 ⁶ /UL
HEMOGLOBIN		15.2		GM/DL
HEMATOCRIT		43		%
MCV		130		fL
MCH		46.1		uug
MCHC		35.3		gm/dL
SEGMENTED NEUTROPHILS		35	(2.520)	% (*10 ³ /UL)
LYMPHOCYTES		60	(4.320)	% (*10 ³ /UL)
MONOCYTES		4	(0.288)	% (*10 ³ /UL)
EOSINOPHILS		1	(0.072)	% (*10 ³ /UL)
BASOPHILS		0		% (*10 ³ /UL)
ESTIMATED PLATELET COUNT	ADEQ			
PLATELET COUNT		326		*10 ³ /UL
ABSOLUTE BASOPHILS		0		/UL
ABSOLUTE EOSINOPHILS		72		\UL
ABSOLUTE LYMPHOCYTES		4320		/UL
ABSOLUTE MONOCYTES		288		/UL
ABSOLUTE SEGS		2520		/UL
FIBRINOGEN		300		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN		45.6		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION		35		%
MEAN CORPUSCULAR VOLUME		130		U(3)

Comments >>

RBC Morph: Normal

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

```

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LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 102529
African elephant                       Age: 39Y Est.        Birth: 1.Jul.1968
Name: LADY
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Collection Information >>

```

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

```

```

Date of Collection: 12.Oct.2005
Time of Collection: 9:00.0
Collected by:
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 13.Oct.2005
Time of Analysis:
Analysis by:
Automated analysis.

```

Tests and Results >>

GLUCOSE	82	MG/DL
BLOOD UREA NITROGEN	12	MG/DL
CREATININE	1.3	MG/DL
BUN/creatinine ratio	9.23	
CALCIUM	10.6	MG/DL
PHOSPHORUS	5.0	MG/DL
calcium/phosphorus ratio	2.12	
SODIUM	132	MEQ/L
POTASSIUM	4.8	MEQ/L
sodium/potassium ratio	27.5	
CHLORIDE	89	MEQ/L
CHOLESTEROL	> 102	MG/DL
TOTAL PROTEIN (COLORIMETRY)	7.9	GM/DL
ALBUMIN (COLORIMETRY)	< 3.0	GM/DL
GLOBULIN (COLORIMETRY)	> 4.9	GM/DL
albumin/globulin ratio	0.612	
ASPARTATE AMINOTRANSFERASE	18	IU/L
TOTAL BILIRUBIN	0.1	MG/DL
ALKALINE PHOSPHATASE	74	IU/L
LACTATE DEHYDROGENASE	< 341	IU/L
CREATINE PHOSPHOKINASE	206	IU/L
ALBUMIN GLOBULIN RATIO	0.6	GM/DL
BUN/CREATININE RATIO	9	MG/DL
GAMMA GLUTAMYLTRANSFERASE	10	IU/L
SODIUM/POTASSIUM RATIO	28	RATIO

Comments >>

Hypercholesterolemia secondary to diet. Slight decrease in WBC likely normal. LDH value likely true normal. WKS.

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

```

=====
LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 102529
African elephant                         Age: 39Y Est.        Birth: 1.Jul.1968
Name: LADY
=====

```

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

Date of Collection: 19.Oct.2005
Time of Collection: :
Collected by:
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant:
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

Laboratory: ANTECH
Date of Analysis: 19.Oct.2005
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	<	7.0		*10 ³ /UL
RED BLOOD CELL COUNT		2.9		*10 ⁶ /UL
HEMOGLOBIN		13.4		GM/DL
HEMATOCRIT		37		%
MCV		128		fL
MCH		46.2		ug
MCHC		36.2		gm/dL
SEGMENTED NEUTROPHILS		33	(2.310)	% (*10 ³ /UL)
LYMPHOCYTES		59	(4.130)	% (*10 ³ /UL)
MONOCYTES		6	(0.420)	% (*10 ³ /UL)
EOSINOPHILS		2	(0.140)	% (*10 ³ /UL)
BASOPHILS		0		% (*10 ³ /UL)
ESTIMATED PLATELET COUNT			INCRS	
ABSOLUTE BASOPHILS		0		/UL
ABSOLUTE EOSINOPHILS		140		\UL
ABSOLUTE LYMPHOCYTES		4130		/UL
ABSOLUTE MONOCYTES		420		/UL
ABSOLUTE SEGS		2310		/UL
FIBRINOGEN		100		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN		46.7		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION		36		%
MEAN CORPUSCULAR VOLUME		128		U(3)

Morphology Results >>

HYPOCHROMIA +1, TARGET CELLS +1

Comments >>

Mild decrease in WBC and borderline decrease in RBC likely dilution effect. WKS.

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

```

=====
LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 102529
African elephant                       Age: 39Y Est.        Birth: 1.Jul.1968
Name: LADY
=====

```

Collection Information >>

```

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

```

```

Date of Collection: 26.Oct.2005
Time of Collection: :
Collected by: SM
Sample Collection Site: EAR VEIN

```

Hematology >>

Analysis Information >>

```

Anticoagulant: EDTA
Storage: Refrigerated (>48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 28.Oct.2005
Time of Analysis: 6:16
Analysis by:
Automated analysis.

```

Tests and Results >>

WHITE BLOOD CELL COUNT	<<	5.1		*10 ³ /UL
RED BLOOD CELL COUNT		3.1		*10 ⁶ /UL
HEMOGLOBIN		14.1		GM/DL
HEMATOCRIT		41		%
MCV		132		fL
MCH		45.5		uug
MCHC		34.4		gm/dL
SEGMENTED NEUTROPHILS		40	(2.040)	% (*10 ³ /UL)
LYMPHOCYTES		53	(2.703)	% (*10 ³ /UL)
MONOCYTES		7	(0.357)	% (*10 ³ /UL)
EOSINOPHILS		0		% (*10 ³ /UL)
BASOPHILS		0		% (*10 ³ /UL)
ESTIMATED PLATELET COUNT		ADEQU		
PLATELET COUNT		356		*10 ³ /UL
ABSOLUTE BASOPHILS		0		/UL
ABSOLUTE EOSINOPHILS		0		\UL
ABSOLUTE LYMPHOCYTES		2703		/UL
ABSOLUTE MONOCYTES		357		/UL
ABSOLUTE SEGS		2040		/UL
FIBRINOGEN		100		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN		45.2		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION		35		%
MEAN CORPUSCULAR VOLUME		132		U(3)

Comments >>

RBC morph: normal

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

```

=====
LOXODONTA AFRICANA (no subsp)           Sex: Female           Acc. #: 102529
African elephant                         Age: 39Y Est.        Birth: 1.Jul.1968
Name: LADY
=====

```

Collection Information >>

```

Health Status: Normal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

```

```

Date of Collection: 26.Oct.2005
Time of Collection: ;
Collected by: SM
Sample Collection Site: EAR VEIN

```

Chemistry >>

Analysis Information >>

```

Chemistry Sample: Serum
Storage: Refrigerated (>48 hours)
Sample Quality: No quality problems.

```

```

Laboratory: ANTECH
Date of Analysis: 28.Oct.2005
Time of Analysis: 6:16
Analysis by:
Automated analysis.

```

Tests and Results >>

GLUCOSE	80	MG/DL
BLOOD UREA NITROGEN	10	MG/DL
CREATININE	1.3	MG/DL
BUN/creatinine ratio	7.69	
CALCIUM	11.1	MG/DL
PHOSPHORUS	5.6	MG/DL
calcium/phosphorus ratio	1.98	
SODIUM >>	141	MEQ/L
POTASSIUM	4.9	MEQ/L
sodium/potassium ratio	28.8	
CHLORIDE	92	MEQ/L
CHOLESTEROL >>	107	MG/DL
TOTAL PROTEIN (COLORIMETRY)	7.3	GM/DL
ALBUMIN (COLORIMETRY) <	2.9	GM/DL
GLOBULIN (COLORIMETRY)	4.4	GM/DL
albumin/globulin ratio	0.659	
ASPARTATE AMINOTRANSFERASE	23	IU/L
TOTAL BILIRUBIN	0.1	MG/DL
ALKALINE PHOSPHATASE	75	IU/L
LACTATE DEHYDROGENASE <	317	IU/L
CREATINE PHOSPHOKINASE	132	IU/L
ALBUMIN GLOBULIN RATIO	0.7	GM/DL
BUN/CREATININE RATIO	8	MG/DL
GAMMA GLUTAMYLTRANSFERASE	8	IU/L
SODIUM/POTASSIUM RATIO	29	RATIO

Comments >>

Hypernatremia and chloremia compatible with dehydration in light of mild increase in HCT for Lady. WKS.

ELCB

Kansas City Zoo
Swope Park
Kansas City, MO 64132
Tel: 816-513-5700
Fax: 816-513-4667

Client # 97779
Chart # N *102529*

Accession No. KCBC00531096	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 10/27/2005
Species Other	Breed	Sex	Pet Age	Reported 10/28/2005 06:16 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	23		IU/L
Total Bilirubin	0.1		mg/dL
Alkaline Phosphatase	75		IU/L
GGT	8		IU/L
Total Protein	7.3		g/dL
Albumin	2.9		g/dL
Globulin	4.4		g/dL
A/G Ratio	0.7		
Cholesterol	107	↑	mg/dL
BUN	10		mg/dL
Creatinine	1.3		mg/dL
BUN/Creatinine Ratio	8		
Phosphorus	5.6		mg/dL
Calcium	11.1		mg/dL
Glucose	80		mg/dL
Sodium	141	↑	mEq/L
Potassium	4.9		mEq/L
Na/K Ratio	29		
Chloride	92	↑	mEq/L
CPK	132		IU/L
LDH	317		IU/L
COMPLETE BLOOD COUNT			
WBC	5.1		10 ³ /μL
RBC	3.1		10 ⁶ /μL
HGB	14.1		g/dL
HCT	41		%
MCV			fL
132 MCV			
MCH	45.2		pg
MCHC	35		%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential	Absolute	%	
Neutrophils	2040	40	/μL
Lymphocytes	2703	53	/μL
Monocytes	357	7	/μL

*Hypokalemia and chloremia
compatible with dehydration
in 12 h of mild hypotension
HCT low for body*

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Accession No.
KCBC00531096

Doctor
SUEDMEYER

Owner
ELEPHANT

Pet Name
LADY

Test Requested	Results	Reference Range	Units
Eosinophils	0	0	/ μ L
Basophils	0	0	/ μ L
Platelet Estimate	Adequate		
Platelet Count	356		10^3 / μ L
FIBRINOGEN (SEMI-QUANTITATIVE)			
Fibrinogen, Semi-Quantitative	100		mg/dl

TK

ANTECH DIAGNOSTICS 5701 W. 120th Street Alsip IL 60803 Phone: 800-745-4725

Kansas City Zoo
Swope Park
Kansas City, MO 64132
Tel: 816-513-5700
Fax: 816-513-4667

Client # 97779
Chart # 102529

Accession No. CHBC01355341	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 10/19/2005
Species Mammal	Breed	Sex F	Pet Age 37Y	Reported 10/20/2005 05:07 AM

Test Requested	Results	Reference Range	Units
COMPLETE BLOOD COUNT			
WBC	7.0 (LOW)	8.0-15.0	10 ³ /μL
RBC	2.9	2.0-4.0	10 ⁶ /μL
HGB	13.4 (HIGH)	10-13	g/dL
HCT	37	34-44	%
MCV		130-170	fL
MCV 128			
MCH	46.7	42.0-52.0	pg
MCHC	36	32-36	%
Comment	HYPOCHROMASIA +1 TARGET CELLS +1		

Differential	Absolute	%	
Neutrophils	2310	33	/μL
Lymphocytes	4130	59	/μL
Monocytes	420	6	/μL
Eosinophils	140	2	/μL
Basophils	0	0	/μL

Platelet Estimate

Platelets appear increased and are above 600,000/uL. If it is clinically necessary to obtain an accurate count, please call Client Services to add on a platelet count. Submitting a fresh sample would be most accurate.

FIBRINOGEN (SEMI-QUANTITATIVE)

Fibrinogen, Semi-Quantitative 100 mg/dl

REPORT NOTES:

 Testing which requires serum has been requested on this patient; however, no serum was received. Please submit a serum sample with a new test request form and include this reference number so we may complete the testing. If there are any questions, please contact Customer Service at 1-800-745-4725

*WBC ↓ in WBC ↓
 condition ↓ is RBC
 likely dilution
 effect*

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Kansas City Zoo
 Swope Park
 Kansas City, MO 64132
 Tel: 816-513-5700
 Fax: 816-513-4667

Client # 97779
 Chart # 102529

Accession No. CHBC01215321	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 10/13/2005
Species Mammal	Breed	Sex F	Pet Age 32Y	Reported 10/13/2005 06:07 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	18 (LOW) ✓	70-130	IU/L
Total Bilirubin	0.1 ✓	0.1-0.3	mg/dL
Alkaline Phosphatase	74 ✓	60-150	IU/L
GGT	10 ✓		IU/L
Total Protein	7.9 (LOW) ✓	8.0-9.2	g/dL
Albumin	3.0 ✓	2.3-3.5	g/dL
Globulin	4.9 ✓		g/dL
A/G Ratio	0.6 ✓		
Cholesterol	102 (HIGH) ↑	41-61	mg/dL
BUN	12 ✓	1-12	mg/dL
Creatinine	1.3 ✓	1.3-1.8	mg/dL
BUN/Creatinine Ratio	9 ✓		
Phosphorus	5.0 (HIGH) ↑	3.6-4.8	mg/dL
Calcium	10.6 ✓	10.0-11.0	mg/dL
Glucose	82 ✓	78-200	mg/dL
Sodium	132 ✓	129-136	mEq/L
Potassium	4.8 ✓	4.2-5.5	mEq/L
Na/K Ratio	28 ✓		
Chloride	89 ✓	85-99	mEq/L
CPK	206 ✓		IU/L
LDH	341 ✓	170-420	IU/L
COMPLETE BLOOD COUNT			
WBC	7.2 (LOW) ↓	8.0-15.0	10 ³ /μL
RBC	3.3 ✓	2.0-4.0	10 ⁶ /μL
HGB	15.2 (HIGH) ✓	10-13	g/dL
HCT	43 ✓	34-44	%
MCV		130-170	fL
MCV 130			
MCH	45.6 ✓	42.0-52.0	pg
MCHC	35 ✓	32-36	%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential			
	Absolute	%	
Neutrophils	2520 ✓	35	/μL
Lymphocytes	4320 ✓	60	/μL
Monocytes	288 ✓	4	/μL
Eosinophils	72 ✓	1	/μL

*Hypercholesterolemia 20 to
 diet. slight ↓ in WBC
 likely mild, LFT normal
 likely true normal*
 KB

Accession No.
CHBC01215321

Doctor
SUEDM EYER

Owner
ELEPHANT

Pet Name
LADY

Test Requested	Results	Reference Range	Units
Basophils	0	0	/ μ L
Platelet Estimate	Adequate		
Platelet Count	326		10^3 / μ L
FIBRINOGEN (SEMI-QUANTITATIVE)			
Fibrinogen, Semi-Quantitative	300		mg/dl

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Kansas City Zoo
 Swope Park
 Kansas City, MO 64132
 Tel: 816-513-5700
 Fax: 816-513-4667

Client # 97779
 Chart # 102529

Accession No. CHBC00500509	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 09/09/2005
Species Equine	Breed	Sex F	Pet Age 37Y	Reported 09/09/2005 06:30 AM

Test Requested	Results	Reference Range	Units
COMPLETE BLOOD COUNT			
WBC	10.0	5.5-12.5	10 ³ /μL
RBC	2.6 (LOW)	6.5-10.5	10 ⁶ /μL
HGB	12.9	11.0-19.0	g/dL
HCT	36	35-52	%
MCV		34-58	fL
MCV = 137			
MCH	48.8 (HIGH)	12.3-19.7	pg
MCHC	36	31-37	%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential	Absolute	%	
Neutrophils	4900	49	2700-6700 /μL
Lymphocytes	4400	44	1500-5500 /μL
Monocytes	300	3	0-800 /μL
Eosinophils	400	4	0-925 /μL
Basophils	0	0	0-170 /μL
Platelet Estimate	Increase		
Platelet Count	597 (HIGH)	100-400	10 ³ /μL
FIBRINOGEN (SEMI-QUANTITATIVE)			
Fibrinogen, Semi-Quantitative	100	100-400	mg/dl

REPORT NOTES:

 Testing which requires serum has been requested on this patient; however, no serum was received. Please submit a serum sample with a new test request form and include this reference number so we may complete the testing. If there are any questions, please contact Customer Service at 1-800-745-4725.

Clinical Pathology Records - Specimen Report
KANSAS CITY ZOOLOGICAL PARK

LOXODONTA AFRICANA (no subsp)
African elephant
Name: LADY

Sex: Female
Age: 39Y Est.

Acc. #: 102529
Birth: 1.Jul.1968

Collection Information >>

Health Status: Abnormal
Fasting Time: < 8 hours
Activity: Active
Weight: 3630 Kg on 22.Aug.2002
Manual restraint used.

Date of Collection: 9.Sep.2005
Time of Collection:
Collected by:
Sample Collection Site: EAR VEIN

Hematology >>

Analysis Information >>

Anticoagulant: EDTA
Storage: Refrigerated (<48 hours)
Sample Quality: No quality problems.

Laboratory: ANTECH
Date of Analysis: 9.Sep.2005
Time of Analysis:
Analysis by:
Automated analysis.

Tests and Results >>

WHITE BLOOD CELL COUNT	10.0		*10 ³ /UL
RED BLOOD CELL COUNT	< 2.6		*10 ⁶ /UL
HEMOGLOBIN	12.9		GM/DL
HEMATOCRIT	36		%
MCV	> 138		fL
MCH	> 49.6		uug
MCHC	35.8		gm/dL
SEGMENTED NEUTROPHILS	> 49	(4.900)	% (*10 ³ /UL)
LYMPHOCYTES	44	(4.400)	% (*10 ³ /UL)
MONOCYTES	3	(0.300)	% (*10 ³ /UL)
EOSINOPHILS	4	(0.400)	% (*10 ³ /UL)
BASOPHILS	0		% (*10 ³ /UL)
ESTIMATED PLATELET COUNT	INCRS		
PLATELET COUNT	597		*10 ³ /UL
ABSOLUTE BASOPHILS	0		/UL
ABSOLUTE EOSINOPHILS	400		\UL
ABSOLUTE LYMPHOCYTES	4400		/UL
ABSOLUTE MONOCYTES	300		/UL
ABSOLUTE SEGS	4900		/UL
FIBRINOGEN	100		MG/DL
MEAN CORPUSCULAR HEMOGLOBIN	48.8		UUG
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION	36		%
MEAN CORPUSCULAR VOLUME	137		U(3)

Comments >>

RBC Morph: Normal

WNL per WKS.

Report Date
10/11/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 1

TK

COLUMBIA, MO 65205
Phone #: 573-882-8811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 0520488
Reference Number: 102529 LADY
Case Coordinator:
Received: 10/06/2005 Finalized: 10/11/2005
Sampled:
Veterinarian: DR. WM KIRK SUEDMEYER
Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO
6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

PCR RESULTS

WNV PCR

ANIMAL ID	SPECIES	BREED	POS/NEG
102529 Lady	Misc	Elephant	NEGATIVE

WNV - bloodwork?
US

Report Date
10/14/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 1

TK

COLUMBIA, MO 55205
Phone #: 573-882-8811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 0520334
Reference Number: 102528 LADY
Case Coordinator: William Fales M.S, Ph.D
Received: 10/04/2005 Finalized: 10/14/2005
Sampled:
Veterinarian: DR. WM KIRK SUEDMEYER
Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO
6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

BACTERIOLOGY RESULTS

AEROBIC CULTURE

SPECIES	Misc
BREED	Elephant
ANIMAL ID	102528 Lady
SPECIMEN #	Fecal
ORGANISM ID	NO SIGNIFICANT GROWTH
COMMENTS	The fecal sample was negative, by culture, for Salmonella using primary and secondary enrichment in conjunction with the use of selective media.





Texas Veterinary Medical Diagnostic Laboratory System



Final Report

P.O. Drawer 3040, College Station, TX 77841-3040
Phone: (979)845-3414 Fax: (979)845-1794 <http://tvmdlweb.tamu.edu/>

(816)513-4669

Owner's Name:
African Elephant 102529

Veterinarian/Submitter: Account ID#: 22643
Animal Health Center
Kansas City Zoological Park
Attention: Dr. Kirk Suedmeyer
6700 Zoo Drive
Kansas City, MO 64114

Date specimens received: 9/28/05

Preliminary reports:

Phone reports:

Final report: Mail 9/30/05

Species: Exotic **Age:** 37.00 Years **Animal ID:** 102529
Breed: Elephant **Weight:** **Sex:** Female

Tests Requested: Salmonella PCR

Specimens Submitted: Feces

Clinical History: 09/27/05, Dr. William K. Suedmeyer. History of loose stools in group. Previous salmonella found in culture of conspecific. /sw

Clinical Diagnosis:

Previous Cases:

Treatment:

Conclusion/Interpretation of Lab Findings:

Laboratory results as listed.

*Cultures are negative
WKS*

LABORATORY TEST STATUS:**Ordered Current Status**

Salmonellosis (genus) PCR (M)

9/28/05

Completed 9/30/05

Molecular Genetics**Salmonellosis (genus) PCR**

Completed: 9/30/05

Animal/Specimen ID	Specimen	Result
102529	Feces	Positive

Comment:

Methodologies for PCR assays are based on procedures published in the literature for these particular pathogens. The disease prevalence in the tested population greatly affects the predictive value on an assay's results, which must be considered in the interpretation of assay results for health management decisions. The predictive value of an assay can be increased if its results are confirmed by another testing system. Assay positive and negative controls were used with this sample set for quality control purposes.

Dr. Loyd Sneed.

Veterinary Bulletin:**Newly emerging Canine Flu Virus:**

Reports of a new virulent strain of canine influenza (canine flu) have recently been circulating in the popular press.

An H3N8 strain of influenza virus previously associated with horses was isolated in 2004 from greyhounds at a racetrack in Jacksonville, FL and subsequently found at other racetracks in Florida, Massachusetts, Arizona, West Virginia, Wisconsin, Texas, and Iowa. The more recent outbreak appears to be related to pet dogs in kennels in New York.

Like most influenza viruses, the incubation period is 2-5 days, transmission can occur by aerosol, fomites, and/or contact. The symptoms are similar to "kennel cough" with the exception of high fever >105, leukopenia, and nasal discharge. Morbidity approaches 80% with mortality between 1-10%. Signs may last for 2-3 weeks depending somewhat on secondary bacterial infections. Antibiotics and fluids can reduce the fatality rate. The virus is sensitive to antiviral drugs specific for influenza A viruses however, none of these have been approved for use in dogs.

Gross lesions include extensive hemorrhage in the lungs, mediastinum, and pleural cavity. Histologically a tracheitis, bronchitis, broncheolitis, and suppurative pneumonia are observed. Additionally, the epithelial lining of the airway lumen are infiltrated by neutrophils and macrophages.

If influenza infection is suspected we suggest collecting serum samples (acute and convalescent, paired samples), respiratory swabs and/or transtracheal washes for isolation. Tissues (fresh and fixed) on post-mortem cases should include lungs, tracheas, and regional lymphatics. Fresh tissues for isolation should be collected as

aseptically as possible, chilled to 4°C (refrigerate), and shipped on ice packs, overnight, as soon as possible.

--Dr. Lester, DVM, PhD

Head, Virology Section, TVMDL

Report Date
10/10/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 1

TH

COLUMBIA, MO 65205
Phone #: 573-882-8811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 0518847

Reference Number:

Case Coordinator: William Faies MS, Ph.D

Received: 09/28/2005 Finalized: 10/10/2005

Sampled:

Veterinarian: DR. WM KIRK SUEDMEYER

Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO

6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

BACTERIOLOGY RESULTS

ENTERIC SCREEN

SPECIES

Misc

BREED

Elephant

ANIMAL ID

102529

SPECIMEN #

Fecal

ORGANISM ID

NO SIGNIFICANT GROWTH

COMMENTS

The fecal sample was negative, by culture, for *Salmonella* using primary and secondary enrichment in conjunction with the use of selective media. In like manner the sample was negative, by culture, for *Yersinia enterocolitica*, *Campylobacter* and *Clostridium perfringens*. 10/10/05.

WML
VF

The Kansas City Zoo Parasitology Submission and Examination Worksheet

SUBMISSION DATA: (complete the top part of this form)

Species/Common Name(s) Loxodonta africana

African elephant Lady

Accession Number(s): 102529

Date collected: 09/10/05
 d d m m y y

Collected by: SS

From enclosure: Stall 1

Type of sample submitted:

- A. Fecal sample
- B. Rectal swab
- C. Skin scraping
- D. Ear swab/wash

Other: _____

Reason/Purpose for submission:

- 1. Routine exam
- 2. Follow-up/Recheck exam
- 3. Diagnostic exam
- 4. Pre-shipment exam
- 5. Quarantine exam (number not specified)
- 6. Quarantine exam #1
- 7. Quarantine exam #2
- 8. Quarantine exam #3
- Other reason _____

Gross appearance:

- 1. Typical
- 2. Atypical

**** FOR LABORATORY USE ONLY (below this line) ****

Date of Examination : ___/___/___
 d d m m y y

Examined by: 1. KMP
 2. WKS
 Other: _____

Sample storage conditions:

- 1. Room/ambient temperature
- 2. Refrigerated
- 8. Other conditions - specify in Comments
- 9. Not specified

Sample consistency:

- 1. Liquid/watery
- 2. Soft
- 3. Formed
- 4. Hard/dry
- 5. Not specified

Unusual gross findings in stool:

- 1. Fresh blood
- 2. Excessive mucus
- 3. Melena or tarry
- 4. Foamy - excess gas
- 5. Adult/larval parasite
- 6. None

Was there a problem with the sample or the examination that requires that the sample submission be repeated?

Yes No

Comments: _____

Test codes:

- 1. Direct Microscopic Exam
- 2. Flootation - Zinc sulfate
- 3. Baermann Sedimentation
- 4. Centrifugation
- 5. Gross Microscopic Exam
- 6. Gram Stain
- 7. Other: _____

Test	Results	Quantity
Direct		
Flootation		
Gram Stain	Yeast	
	Gram + rods	
	Gram + cocci	
	Gram - rods	
	Gram - cocci	

Comments:

Sent for Salmonella PCR

Report Date
07/29/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 4

TK

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 05-15086

Reference Number:

Case Coordinator: William Faies MS, Ph.D

Received: 07/25/2005 Finalized: 07/29/2005

Sampled:

Veterinarian: DR. WM KIRK SUEDMEYER

Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO

6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

BACTERIOLOGY RESULTS

AEROBIC CULTURE

- | | | |
|---|-------------|---|
| 1 | SPECIES | Misc |
| | BREED | Elephant |
| | ANIMAL ID | 102529 |
| | SPECIMEN # | Right ear |
| | ORGANISM ID | PANTOEA AGGLOMERANS (ENTEROBACTER) - |
| | ORGANISM ID | AEROMONAS SOBRIA |
| | ORGANISM ID | STAPHYLOCOCCUS EPIDERMIDIS — |
| | ORGANISM ID | STREPTOCOCCUS SPP, ALPHA HEMOLYTIC |
| | COMMENTS | P. agglomerans and Aeromonas sobria represented the heavy bacterial growth. |
| 2 | SPECIES | Misc |
| | BREED | Elephant |
| | ANIMAL ID | 102529 |
| | SPECIMEN # | Left ear |
| | ORGANISM ID | PANTOEA AGGLOMERANS (ENTEROBACTER) - |
| | ORGANISM ID | AEROMONAS CAVIAE — |
| | ORGANISM ID | STAPHYLOCOCCUS EPIDERMIDIS — |
| | COMMENTS | Growth of the isolates was heavy on direct culture. |

ANAEROBIC CULTURE

- | | | |
|---|-------------|-----------------------|
| 1 | SPECIES | Misc |
| | BREED | Elephant |
| | ANIMAL ID | 102529 |
| | SPECIMEN # | Right ear |
| | ORGANISM ID | NO SIGNIFICANT GROWTH |
| 2 | SPECIES | Misc |
| | BREED | Elephant |

*Discarding normal
Alma
WJG*

Report Date
07/29/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 2 of 4

COLUMBIA, MO 65206
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-15096

BACTERIOLOGY RESULTS

2 ANIMAL ID 102529
SPECIMEN # Left ear
ORGANISM ID NO SIGNIFICANT GROWTH

FUNGAL CULTURE

1 SPECIES Misc
BREED Elephant
ANIMAL ID 102529
SPECIMEN # Right ear
COMMENTS Fungal culture results are pending and a final report will follow in 30 days.

2 SPECIES Misc
BREED Elephant
ANIMAL ID 102529
SPECIMEN # Left ear
COMMENTS Fungal culture results are pending and a final report will follow in 30 days.

ANTIMICROB SUSCEPT/EQUINE

1 ANIMAL ID 102529
SPECIMEN # Right ear swab
ORGANISM ID PANTOEA AGGLOMERANS (ENTEROBACTER)
COMMENTS CONCENTRATIONS IN UG/ML

2 ANIMAL ID 102529
SPECIMEN # Right ear swab
ORGANISM ID AEROMONAS SOBRIA
COMMENTS CONCENTRATIONS IN UG/ML

3 ANIMAL ID 102529
SPECIMEN # Left ear swab
ORGANISM ID STAPHYLOCOCCUS EPIDERMIDIS
COMMENTS CONCENTRATIONS IN UG/ML

4 ANIMAL ID 102529
SPECIMEN # Left ear swab
ORGANISM ID AEROMONAS CAVIAE

Report Date
07/29/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 8023

Page 3 of 4

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-15098

BACTERIOLOGY RESULTS

Antibiotic Sensitivity Pattern

	AEROMONAS CAVIAE - 4	AEROMONAS SOBRIA - 2
AMIKACIN	S ≤ 4.0000 (4 - 32)	S ≤ 4.0000 (4 - 32)
AMOXI/CLAV	S ≤ 4.0000 (4/2 - 32/16)	I 16.0000 (4/2 - 32/16)
AMPICILLIN	S 2.0000 (0.25 - 16)	R > 16.0000 (0.25 - 16)
CEFAZOLIN	R > 16.0000 (2 - 16)	I 16.0000 (2 - 16)
CEFTIOFUR	I 4.0000 (0.25 - 4)	S 0.5000 (0.25 - 4)
CHLORAMPHENICOL	S ≤ 4.0000 (4 - 16)	S ≤ 4.0000 (4 - 16)
ERYTHROMYCIN	R > 4.0000 (0.5 - 4)	R 4.0000 (0.5 - 4)
GENTAMICIN	S ≤ 1.0000 (1 - 8)	S ≤ 1.0000 (1 - 8)
IMIPENEM	S ≤ 1.0000 (1 - 8)	S ≤ 1.0000 (1 - 8)
OXACIL - 2% NAOL	R > 4.0000 (2 - 4)	R > 4.0000 (2 - 4)
PENICILLIN	R > 8.0000 (0.06 - 8)	R > 8.0000 (0.06 - 8)
RIFAMPIN	I 2.0000 (1 - 2)	I 2.0000 (1 - 2)
TETRACYCLINE	S ≤ 1.0000 (1 - 8)	S ≤ 1.0000 (1 - 8)
TICAR/CLAV ACID	S ≤ 8.0000 (8/2 - 64/2)	I 32.0000 (8/2 - 64/2)
TICARCILLIN	S ≤ 8.0000 (8 - 64)	R > 64.0000 (8 - 64)
TRIMETH/SULFA	S ≤ 0.5000 (0.5/9.5 - 2/38)	S ≤ 0.5000 (0.5/9.5 - 2/38)

Report Date
07/29/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 4 of 4

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-15098

BACTERIOLOGY RESULTS

	PANTOEA AGGLOMERANS (ENTEROB - 1)	STAPHYLOCOCCUS EPIDERMIDIS - 3
AMIKACIN	S <=4.0000(4 - 32)	S <=4.0000(4 - 32)
AMOXI/CLAV	S <=4.0000(4/2 - 32/16)	S <=4.0000(4/2 - 32/16)
AMPICILLIN	S 0.5000(0.25 - 16)	S <=0.2500(0.25 - 16)
CEFAZOLIN	S <=2.0000(2 - 16)	S <=2.0000(2 - 16)
CEFTIOFUR	S <=0.2500(0.25 - 4)	S <=0.2500(0.25 - 4)
CHLORAMPHENICOL	S <=4.0000(4 - 16)	S <=4.0000(4 - 16)
ERYTHROMYCIN	R <=0.5000(0.5 - 4)	S <=0.5000(0.5 - 4)
GENTAMICIN	S <=1.0000(1 - 8)	S <=1.0000(1 - 8)
IMPENEM	S <=1.0000(1 - 8)	S <=1.0000(1 - 8)
OXACIL - 2% NACL	S <=2.0000(2 - 4)	S <=2.0000(2 - 4)
PENICILLIN	S 0.2500(0.06 - 8)	S <=0.0600(0.06 - 8)
RIFAMPIN	S <=1.0000(1 - 2)	S <=1.0000(1 - 2)
TETRACYCLINE	S <=1.0000(1 - 8)	S <=1.0000(1 - 8)
TICAR/CLAV ACID	S <=8.0000(8/2 - 64/2)	S <=8.0000(8/2 - 64/2)
TICARCILLIN	S <=8.0000(8 - 64)	S <=8.0000(8 - 64)
TRIMETH/SULFA	S <=0.5000(0.5/0.5 - 2/38)	S <=0.5000(0.5/0.5 - 2/38)

This is an "in vitro" test that may not reflect clinical outcome.

TR

ANTECH DIAGNOSTICS 5701 W. 120th Street Alsip IL 60803 Phone: 800-745-4725

Kansas City Zoo
 Swope Park
 Kansas City, MO 64132
 Tel: 816-513-5700
 Fax: 816-513-4667

Client # 97779
 Chart # 102529

Accession No. CHAC21244723	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 08/04/2005
Species Mammal	Breed	Sex F	Pet Age 3Y	Reported 08/04/2005 03:56 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	19 (LOW)	70-130	IU/L
Total Bilirubin	0.1	0.1-0.3	mg/dL
Alkaline Phosphatase	68	60-150	IU/L
GGT	8		IU/L
Total Protein	7.6 (LOW)	8.0-9.2	g/dL
Albumin	2.9	2.3-3.5	g/dL
Globulin	4.7		g/dL
A/G Ratio	0.6		
Cholesterol	↑ 108 (HIGH)	41-61	mg/dL
BUN	10	1-12	mg/dL
Creatinine	1.5	1.3-1.8	mg/dL
BUN/Creatinine Ratio	7		
Phosphorus	4.7	3.6-4.8	mg/dL
Calcium	10.9	10.0-11.0	mg/dL
Glucose	65 (LOW)	78-200	mg/dL
Sodium	125 (LOW)	129-136	mEq/L
Potassium	4.6	4.2-5.5	mEq/L
Na/K Ratio	27		
Chloride	84 (LOW)	85-99	mEq/L
CPK	286		IU/L
LDH	585 (HIGH)	170-420	IU/L
COMPLETE BLOOD COUNT			
WBC	7.7 (LOW)	8.0-15.0	10 ³ /μL
RBC	3.0	2.0-4.0	10 ⁶ /μL
HGB	13.5 (HIGH)	10-13	g/dL
HCT	42	34-44	%
HEMATOCRIT BY MANUAL METHOD			
MCV		130-170	fL
MCV = 140			
MCH	45.0	42.0-52.0	pg
MCHC	32	32-36	%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential			
Neutrophils	Absolute 2849	% 37	/μL
Lymphocytes	2618	34	/μL

*Essentially well
 but mild nitro
 response (↑
 hemoglobin)*

Accession No	Doctor	Owner	Pet Name
CHAC21244723	SUEDMEYER	ELEPHANT	LADY
Test Requested	Results	Reference Range	Units
Monocytes	2156	28	/ μ L
Eosinophils	77	1	/ μ L
Basophils	0	0	/ μ L
Platelet Estimate	Adequate		
Platelet Count	366		10^3 / μ L
FIBRINOGEN (SEMI-QUANTITATIVE)			
Fibrinogen, Semi-Quantitative	300		mg/dl

Kansas City Zoo
 Swope Park
 Kansas City, MO 64132
 Tel: 816-513-5700
 Fax: 816-513-4667

Client # 97779
 Chart # 102529

Accession No. CHAC20978233	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 07/22/2005
Species Mammal	Breed	Sex F	Pet Age 37Y	Reported 07/22/2005 03:43 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	20 (LOW)	70-130	IU/L
Total Bilirubin	0.1	0.1-0.3	mg/dL
Alkaline Phosphatase	74	60-150	IU/L
GGT	9		IU/L
Total Protein	7.6 (LOW)	8.0-9.2	g/dL
Albumin	↓ 3.0	2.3-3.5	g/dL
Globulin	4.6		g/dL
A/G Ratio	0.7		
Cholesterol	↑ 113 (HIGH)	41-61	mg/dL
BUN	9	1-12	mg/dL
Creatinine	↑ 1.8	1.3-1.8	mg/dL
BUN/Creatinine Ratio	5		
Phosphorus	5.0 (HIGH)	3.6-4.8	mg/dL
Calcium	↓ 10.3	10.0-11.0	mg/dL
Glucose	74 (LOW)	78-200	mg/dL
Sodium	130	129-136	mEq/L
Potassium	4.7	4.2-5.5	mEq/L
Na/K Ratio	28		
Chloride	88	85-99	mEq/L
CPK	↓ 154		IU/L
LDH	↓ 332	170-420	IU/L
COMPLETE BLOOD COUNT			
WBC	↓ 7.2 (LOW)	8.0-15.0	10 ³ /μL
RBC	3.2	2.0-4.0	10 ⁶ /μL
HGB	14.5 (HIGH)	10-13	g/dL
HCT	36	34-44	%
MCV		130-170	fL
*****	MCV = 113		
MCH	46.1	42.0-52.0	pg
MCHC	41 (HIGH)	32-36	%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential			
	Absolute	%	
Neutrophils	2880	40	/μL
Lymphocytes	↓ 2448	34	/μL
Monocytes	1728	24	/μL
Eosinophils	144	2	/μL

*with inflammation neutro & slight
 ↑ in fibrinogen. slight ↓ in
 albumin may be diet.
 red blood cell diet.*

VB

Accession No	Doctor	Owner	Pet Name	
CHAC20978233	SUEDMEYER	ELEPHANT	LADY	
Test Requested	Results	Reference Range	Units	
Basophils	0	0	/μL	
Platelet Estimate	Adequate			
Platelet Count	348		10 ³ /μL	
FIBRINOGEN (SEMI-QUANTITATIVE)				
Fibrinogen, Semi-Quantitative	200		mg/dl	

Report Date
08/02/2005

**UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023**

Page 1 of 2

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 05-15498
Reference Number:
Case Coordinator: William Faies MS, Ph.D
Received: 07/29/2005 Finalized: 08/02/2005
Sampled:
Veterinarian: DR. WM KIRK SUEDEMEYER
Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO

6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

BACTERIOLOGY RESULTS

AEROBIC CULTURE

SPECIES	Misc
BREED	Elephant
ANIMAL ID	102529
SPECIMEN #	Milk Swab
ORGANISM ID	ENTEROCOCCUS SPP
ORGANISM ID	STAPHYLOCOCCUS EPIDERMIDIS
COMMENTS	Growth of the Isolates was moderate on direct culture.

BOVINE MASTITIS SUSCEPT

- | | | |
|---|-------------|----------------------------|
| 1 | ANIMAL ID | 102529 |
| | SPECIMEN # | Milk |
| | ORGANISM ID | ENTEROCOCCUS SPP |
| | COMMENTS | CONCENTRATIONS IN UG/ML |
| 2 | ANIMAL ID | 102529 |
| | SPECIMEN # | Milk |
| | ORGANISM ID | STAPHYLOCOCCUS EPIDERMIDIS |

*WML
US*

Report Date
08/02/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 2 of 2

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-15498

BACTERIOLOGY RESULTS

Antibiotic Sensitivity Pattern

	ENTEROCOCCUS SPP - 1	STAPHYLOCOCCUS EPIDERMIDIS - 2
AMPICILLIN	S \leq 0.1200(0.12 - 8)	S \leq 0.1200(0.12 - 8)
CEFTIOFUR	S \leq 0.5000(0.5 - 4)	S \leq 0.5000(0.5 - 4)
CEPHALOTHIN	S \leq 2.0000(2 - 16)	S \leq 2.0000(2 - 16)
ERYTHROMYCIN	S \leq 0.2500(0.25 - 4)	S \leq 0.2500(0.25 - 4)
OXACIL - 2% NACL	S \leq 2.0000(2 - 4)	S \leq 2.0000(2 - 4)
PENICI/NOVOB	S \leq 1.0000(1/2 - 8/16)	S \leq 1.0000(1/2 - 8/16)
PENICILLIN	S \leq 0.1200(0.12 - 8)	S \leq 0.1200(0.12 - 8)
PIRLIMYCIN	S \leq 0.5000(0.5 - 4)	S \leq 0.5000(0.5 - 4)
SULFADIMETHOXINE	S \leq 32.0000(32 - 256)	R $>$ 256.0000(32 - 256)
TETRACYCLINE	S \leq 1.0000(1 - 8)	S \leq 1.0000(1 - 8)

This is an "in vitro" test that may not reflect clinical outcome.

Report Date
08/02/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 2

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COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 05-15488
Reference Number:
Case Coordinator: William Fales MS, Ph.D
Received: 07/29/2005 Finalized: 08/02/2005
Sampled:
Veterinarian: DR. WM KIRK SUEDMEYER
Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO
6800 ZOO DR
KANSAS CITY, MO 64132

Addended Report

BACTERIOLOGY RESULTS

AEROBIC CULTURE

SPECIES	Misc
BREED	Elephant
ANIMAL ID	102529
SPECIMEN #	Milk Swab
ORGANISM ID	ENTEROCOCCUS SPP
ORGANISM ID	STREPTOCOCCUS SPP, GAMMA HEMOLYTIC
COMMENTS	Growth of the isolates was moderate on direct culture.

BACTERIOLOGY COMMENTS

COMMENTS This a corrected report. The isolate reported as Staph epidermidis should have been reported as Gamma hemolytic streptococcus. WHF, 8/2/05.

BOVINE MASTITIS SUSCEPT

1	ANIMAL ID	102529
	SPECIMEN #	Milk
	ORGANISM ID	ENTEROCOCCUS SPP
	COMMENTS	CONCENTRATIONS IN UG/ML
2	ANIMAL ID	102529
	SPECIMEN #	Milk
	ORGANISM ID	STREPTOCOCCUS SPP, GAMMA HEMOLYTIC

*Gamma Strept likely not severe
pathogen. E. Hemolytic
likely contaminant.*
VKS

Report Date
08/02/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 2 of 2

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Addended Report

Accession Number: 05-15498

BACTERIOLOGY RESULTS

Antibiotic Sensitivity Pattern

	ENTEROCOCCUS SPP - 1	STREPTOCOCCUS SPP, GAMMA HEM - 2
AMPICILLIN	S ≤=0.1200(0.12 - 8)	S ≤=0.1200(0.12 - 8)
CEFTIOFUR	S ≤=0.5000(0.5 - 4)	S ≤=0.5000(0.5 - 4)
CEPHALOTHIN	S ≤=2.0000(2 - 16)	S ≤=2.0000(2 - 16)
ERYTHROMYCIN	S ≤=0.2500(0.25 - 4)	S ≤=0.2500(0.25 - 4)
OXACIL - 2% NACL	S ≤=2.0000(2 - 4)	S ≤=2.0000(2 - 4)
PENICI/NOVOB	S ≤=1.0000(1/2 - 8/16)	S ≤=1.0000(1/2 - 8/16)
PENICILLIN	S ≤=0.1200(0.12 - 8)	S ≤=0.1200(0.12 - 8)
PIRLIMYCIN	S ≤=0.5000(0.5 - 4)	S ≤=0.5000(0.5 - 4)
SULFADIMETHOXINE	S ≤=32.0000(32 - 256)	R >256.0000(32 - 256)
TETRACYCLINE	S ≤=1.0000(1 - 8)	S ≤=1.0000(1 - 8)

This is an "in vitro" test that may not reflect clinical outcome.

LA09

7/ Entered into MedARKS

The Kansas City Zoo Parasitology Submission and Examination Worksheet

SUBMISSION DATA: (complete the top part of this form)

Species/Common Name(s) Loxodonta africana
African elephant

Date collected: 27/07/05
 d d m m y y

Accession Number(s): 102529

Collected by: _____

From enclosure: Elephants

Type of sample submitted:

- A. Fecal sample
- B. Rectal swab
- C. Skin scraping
- D. Ear swab/wash

Other: _____

Reason/Purpose for submission:

- 1. Routine exam
- 2. Follow-up/Recheck exam
- 3. Diagnostic exam
- 4. Pre-shipment exam
- 5. Quarantine exam (number not specified)
- 6. Quarantine exam #1
- 7. Quarantine exam #2
- 8. Quarantine exam #3
- Other reason _____

Gross appearance:

- 1. Typical
- 2. Atypical

**** FOR LABORATORY USE ONLY (below this line) ****

Date of Examination : 27/07/05
 d d m m y y

Test codes:

Examined by: 1. KMP
 2. WKS
 Other: SO

- 1. Direct Microscopic Exam
- 2. Floatation - Zinc sulfate
- 3. Baermann Sedimentation
- 4. Centrifugation
- 5. Gross Microscopic Exam
- 6. Gram Stain
- 7. Other: _____

Sample storage conditions:

- 1. Room/ambient temperature
- 2. Refrigerated
- 8. Other conditions - specify in Comments
- 9. Not specified

Test	Results	Quantity
Direct	NOS	
Floatation	NOS	
Gram Stain	Yeast	
	Gram + rods	
	Gram + cocci	
	Gram - rods	
	Gram - cocci	

Sample consistency:

- 1. Liquid/watery
- 2. Soft
- 3. Formed
- 4. Hard/dry
- 5. Not specified

Unusual gross findings in stool:

- 1. Fresh blood
- 2. Excessive mucus
- 3. Melena or tarry
- 4. Foamy - excess gas
- 5. Adult/larval parasite
- 6. None

Comments: _____

Was there a problem with the sample or the examination that requires that the sample submission be repeated?

Yes No

Comments: _____

TK

URINALYSIS REPORT

Animal: Elephant Lady

ISIS #: 102529

Date Collected: 6-5-05

Date Analyzed: 6-5-05

Sample collection: sterile
free catch
cage floor

Sample storage: room
refrigerated
frozen

Analysis by: KMP

Color: yellow

Appearance: flocculant

Specific gravity: 1.018

Glucose: negative

Bilirubin: negative

Ketone: negative

Specific gravity: 1.005

Blood: negative

pH: > 8.5

Protein: trace

Urobilinogen: normal

Nitrite: negative

RBC/hpf: 0

WBC/hpf: 0-1 per 3-fields

Bacteria: few minimal cocci

Casts: 0

Crystals: Ca carbonate

Epithelial cells: 0

Comments:

WNL NG



TR

ANTECH DIAGNOSTICS 5701 W. 120th Street Alsip IL 60803 Phone: 800-745-4725

Kansas City Zoo
Swope Park
Kansas City, MO 64132
Tel: 816-513-5700
Fax: 816-513-4667

Client # 97779
Chart # 102529

Accession No. CHAC19818818	Doctor SUEDMEYER	Owner KC ZOO	Pet Name LADY	Received 05/28/2005
Species Other	Breed	Sex F	Pet Age 34Y	Reported 05/28/2005 03:04 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	18		IU/L
Total Bilirubin	0.2		mg/dL
Alkaline Phosphatase	87		IU/L
GGT	11		IU/L
Total Protein	8.0		g/dL
Albumin	2.9		g/dL
Globulin	5.1		g/dL
A/G Ratio	0.6		
Cholesterol	85		mg/dL
BUN	9		mg/dL
Creatinine	1.3		mg/dL
BUN/Creatinine Ratio	7		
Phosphorus	4.7		mg/dL
Calcium	10.1		mg/dL
Glucose	96		mg/dL
Sodium	129		mEq/L
Potassium	4.3		mEq/L
Na/K Ratio	30		
Chloride	88		mEq/L
CPK	256		IU/L
LDH	386		IU/L
COMPLETE BLOOD COUNT			
WBC	8.9		10 ³ /μL
RBC	3.4		10 ⁶ /μL
HGB	15.5		g/dL
HCT	44		%
MCV			fL
= 129			
MCH	46.2		pg
MCHC	36		%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential	Absolute	%	
Neutrophils	3649	41	/μL
Lymphocytes	3115	35	/μL
Monocytes	2136	24	/μL
Eosinophils	0	0	/μL

Accession No CHAC19818818	Doctor SUEDMEYER	Owner KC ZOO	Pet Name LADY
------------------------------	---------------------	-----------------	------------------

Test Requested	Results	Reference Range	Units
Basophils Platelet Estimate	0	0	/ μ L

Platelets appear increased and are above 600,000/ μ L. If it is clinically necessary to obtain an accurate count, please call Client Services to add on a platelet count. Submitting a fresh sample would be most accurate.

FIBRINOGEN (SEMI-QUANTITATIVE)

Fibrinogen, Semi-Quantitative 200 mg/dl

*Very mild elevation of platelets
But count N, may vary w/ret
but not reflective of
immature (found 25% ret)*

VJ

Kansas City Zoo
 Swope Park
 Kansas City, MO 64132
 Tel: 816-513-5700
 Fax: 816-513-4667

Client # 97779
 Chart # 102529

Accession No. CHAC19895684	Doctor SUEDMEYER	Owner ELEPHANT	Pet Name LADY	Received 06/02/2005
Species Mammal	Breed	Sex	Pet Age	Reported 06/02/2005 05:03 AM

Test Requested	Results	Reference Range	Units
VET SCREEN (EQUINE)			
AST (SGOT)	18 (LOW)	70-130	IU/L
Total Bilirubin	0.1	0.1-0.3	mg/dL
Alkaline Phosphatase	90	60-150	IU/L
GGT	8		IU/L
Total Protein	8.0	8.0-9.2	g/dL
Albumin	2.8	2.3-3.5	g/dL
Globulin	5.2		g/dL
A/G Ratio	0.5		
Cholesterol	99 (HIGH)	41-61	mg/dL
BUN	8	1-12	mg/dL
Creatinine	1.1 (LOW)	1.3-1.8	mg/dL
BUN/Creatinine Ratio	7		
Phosphorus	6.0 (HIGH)	3.6-4.8	mg/dL
Calcium	10.2	10.0-11.0	mg/dL
Glucose	67 (LOW)	78-200	mg/dL
Sodium	129	129-136	mEq/L
Potassium	5.0	4.2-5.5	mEq/L
Na/K Ratio	26		
Chloride	86	85-99	mEq/L
CPK	193		IU/L
LDH	368	170-420	IU/L
COMPLETE BLOOD COUNT			
WBC	10.3	8.0-15.0	10 ³ /μL
RBC	3.1	2.0-4.0	10 ⁶ /μL
HGB	14.6 (HIGH)	10-13	g/dL
HCT	39	34-44	%
MCV		130-170	fL
MCV = 126			
MCH	47.8	42.0-52.0	pg
MCHC	38 (HIGH)	32-36	%
Comment			
RBC MORPHOLOGY	NORMAL		
Differential			
	Absolute	%	
Neutrophils	6901	67	/μL
Lymphocytes	2266	22	/μL
Monocytes	927	9	/μL
Eosinophils	103	1	/μL

*Hypersplenism 20 to
 prolonged survival with
 RBCs due to delay in
 immunity to AHC
 (W) coat well*

TR5

Accession No	Doctor	Owner	Pet Name
CHAC19895684	SUEDMEYER	ELEPHANT	LADY
Test Requested	Results	Reference Range	Units
Basophils	103	1	/ μ L
Platelet Estimate	Increase		
Platelet Count	600		10^3 / μ L
FIBRINOGEN (SEMI-QUANTITATIVE)			
Fibrinogen, Semi-Quantitative	100		mg/dl

Report Date
06/06/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 1 of 3

TR

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Owner: OWNER SAME AS CLIENT

Accession Number: 05-11707

Reference Number:

Case Coordinator: William Fales MS, Ph.D

Received: 06/02/2005 Finalized: 06/06/2005

Sampled:

Veterinarian: DR. WM KIRK SUEDEMEYER

Client: KANSAS CITY ZOO

To: KANSAS CITY ZOO

6800 ZOO DR
KANSAS CITY, MO 64132

Final Report

BACTERIOLOGY RESULTS

AEROBIC CULTURE

SPECIES	Misc
BREED	Elephant
ANIMAL ID	10259
SPECIMEN #	Vaginal discharge swab
ORGANISM ID	MICROCOCCUS SPP
ORGANISM ID	STREPTOCOCCUS SPP, BETA HEMOLYTIC
ORGANISM ID	ENTEROBACTER CLOACAE
COMMENTS	The Micrococcus and beta hemolytic streptococcus were recovered on direct culture. The Enterobacter was recovered from enrichment broth.

ANAEROBIC CULTURE

SPECIES	Misc
BREED	Elephant
ANIMAL ID	10259
SPECIMEN #	Vaginal discharge swab
ORGANISM ID	NO SIGNIFICANT GROWTH

ANTIMICROB SUSCEPT/EQUINE

Final results

WS

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-11707

BACTERIOLOGY RESULTS

- 1 ANIMAL ID 10259
SPECIMEN # Vaginal swab
ORGANISM ID MICROCOCCUS SPP
- 2 ANIMAL ID 10259
SPECIMEN # Vaginal swab
ORGANISM ID STREPTOCOCCUS SPP, BETA HEMOLYTIC
- 3 ANIMAL ID 10259
SPECIMEN # Vaginal swab
ORGANISM ID ENTEROBACTER CLOACAE

Antibiotic Sensitivity Pattern

	SUSCEPT (UG/ML) - 1	SUSCEPT (UG/ML) - 2
AMIKACIN	I 32.0000(4 - 32)	R >32.0000(4 - 32)
AMOXI/CLAV	S <=4.0000(4/2 - 32/16)	S <=4.0000(4/2 - 32/16)
AMPICILLIN	I 1.0000(0.25 - 16)	I 0.5000(0.25 - 16)
CEFAZOLIN	R >16.0000(2 - 16)	R >16.0000(2 - 16)
CEFTIOFUR	R >4.0000(0.25 - 4)	R >4.0000(0.25 - 4)
CHLORAMPHENICOL	S 8.0000(4 - 16)	S <=4.0000(4 - 16)
ERYTHROMYCIN	I 1.0000(0.5 - 4)	I <=0.5000(0.5 - 4)
GENTAMICIN	S 4.0000(1 - 8)	R >8.0000(1 - 8)
IMPENEM	S <=1.0000(1 - 8)	S <=1.0000(1 - 8)
OXACIL - 2% NACL	R >4.0000(2 - 4)	R 4.0000(2 - 4)
PENICILLIN	R 4.0000(0.06 - 8)	R 2.0000(0.06 - 8)
RIFAMPIN	S <=1.0000(1 - 2)	S <=1.0000(1 - 2)
TETRACYCLINE	S <=1.0000(1 - 8)	S <=1.0000(1 - 8)
TICAR/CLAV ACID	I 32.0000(8/2 - 64/2)	I 32.0000(8/2 - 64/2)
TICARCILLIN	I 32.0000(8 - 64)	S <=8.0000(8 - 64)
TRIMETH/SULFA	S <=0.5000(0.5/9.5 - 2/38)	S <=0.5000(0.5/9.5 - 2/38)

Report Date
06/06/2005

UNIVERSITY OF MISSOURI
VET MED DIAGNOSTIC LAB
P.O. BOX 6023

Page 3 of 3

COLUMBIA, MO 65205
Phone #: 573-882-6811 Fax #: 573-882-1411

Final Report

Accession Number: 05-11707

BACTERIOLOGY RESULTS

	SUSCEPT (UG/ML) - 3
AMIKACIN	S <=4.0000(4 - 32)
AMOXI/CLAV	R >32.0000(4/2 - 32/16)
AMPICILLIN	R >16.0000(0.25 - 16)
CEFAZOLIN	R >16.0000(2 - 16)
CEFTIOFUR	S 1.0000(0.25 - 4)
CHLORAMPHENICOL	S 8.0000(4 - 16)
ERYTHROMYCIN	R >4.0000(0.5 - 4)
GENTAMICIN	S <=1.0000(1 - 8)
IMIPENEM	S <=1.0000(1 - 8)
OXACIL - 2% NACL	R >4.0000(2 - 4)
PENICILLIN	R >8.0000(0.06 - 8)
RIFAMPIN	R >2.0000(1 - 2)
TETRACYCLINE	S 2.0000(1 - 8)
TICAR/CLAV ACID	S 16.0000(8/2 - 64/2)
TICARCILIN	R <=8.0000(8 - 64)
TRIMETH/SULFA	S <=0.5000(0.6/8.5 - 2/38)

This is an "in vitro" test that may not reflect clinical outcome.

74

URINALYSIS REPORT

Animal: *Elephant*

ISIS #: *102529*

body

Date Collected: *5/28/2005*

Date Analyzed: *5/28/2005*

Sample collection: *sterile
free catch
cage floor*

Sample storage: *room
refrigerated
frozen*

Analysis by: *WKS*

Color: *pale yellow*

Appearance: *cloudy*

Specific gravity:

Glucose: *M*

RBC/hpf: *0*

Bilirubin: *M*

WBC/hpf: *0*

Ketone: *M*

Bacteria: *cocci +*

Specific gravity:

Casts: *None*

Blood: *M*

Crystals: *Ca Oxalate*

pH: *8.5*

Epithelial cells: *0*

Protein: *+30*

Urobilinogen: *M*

Nitrite: *M*

Comments:



Print Message | Close

From : "wksahc@juno.com" <wksahc@juno.com>
 To : Michele.Miller@disney.com, DennisSchmitt@MissouriState.edu
 Subject : where we are at
 Date : Mon, Mar 12, 2007 12:59 PM
 Attachment(s) : 2 photo(s)/image(s) | Total File Size: 1.3M

Hi Michelle and Dennis,

Here's an update on where we are at and where we are going...Lady has ripped out two sets of sutures, one the original mucosal and skin, then just a mucosal repair. She went into estrus the first week of March and passed another small piece of the calf's head but nothing else except daily clear mucus. Everything else is normal. The incision has contracted about 30% now but as you can see, the left side is everted and reflected back to the skin, which is inverted but has migrated considerably. The rt side mucosal layer is flat, with the skin about 4-6cm from the margin. we perform bid hydrotherapy, then a flush, then apply ointment to the ventral aspect of the tail (kinda a windshield-wiper effect).....

We plan to perform another surgery next week by elevating and freshening the mucosal and skin margin, then inverting the mucosa, place a running suture (we placed interrupted last time and it just took too long and all were broken by her) in the mucosa, then either placing a surgical mesh and tacking it down for extra strength, and leave the skin alone, or not use the mesh and suture the skin again. We have another method worked out to prevent her from rubbing. Let me know your thoughts!!

Kirk

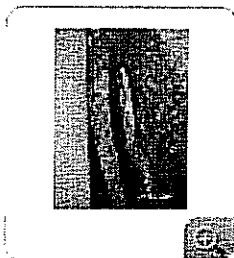
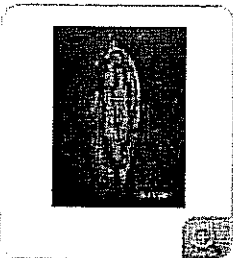
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Lady2.jpg (893KB)

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[Print Message](#) | [Close](#)

From : "wksahc@juno.com" <wksahc@juno.com>
 To : Laytoninzer@gmail.com
 Subject : elephant pics
 Date : Mon, Mar 12, 2007 01:14 PM
 Attachment(s) : 2 photo(s)/image(s) | Total File Size: 1.3M

Hi Candy,

Here's the pictures. The left side is everted and reflected back to the margin of the skin, whereas the right side is flat and about 4-6cm away from the skin margin. Our plan is to either freshen the back side of the mucosa and the edge, then suture that with PDS in a running suture, then either place the polypropylene mesh for support and tack it down and leave the skin, or.....suture the mucosa, then free the skin and suture that over the mucosa. We have done both procedures already and she has ripped them all out by rubbing. We think we have a system worked out so that she cannot rub..She gets daily hydrotherapy, an antibiotic flush, then ointment topically.
 Thoughts appreciated!!
 Kirk

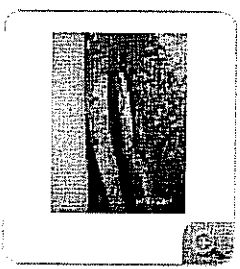
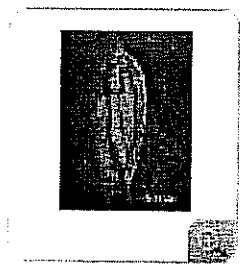
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Lady2.jpg
(893KB)

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[Print Message](#) | [Close](#)

From : Miller Michele <Michele.Miller@disney.com>
To : <wksahc@juno.com>, "Miller, Michele" <Michele.Miller@disney.com>, <dennisschmitt@missouri.edu>
Subject : RE: where we are at
Date : Sun, Mar 18, 2007 03:01 PM

Hi Kirk,

Sorry for the delay - have had computer crash so just getting back. I think it looks amazingly good! My suggestion is not to add any foreign material (i.e., mesh or drains). When we tried drains, it seemed to actually wick and cause any infection. I would rather see releasing and draining incisions instead.

Our experience has suggested that regular debridement of the margins will help get that to heal and I think that if you can keep her from rubbing and keep sutures in place, the longer that the tissue isn't irritated, the sooner it will migrate together. If you can get mucosa together and do a running suture, then bring skin together with releasing incisions, that would probably be a good option.

Is she leaking urine? It was hard to tell from the photos but it looked really good.

Michele

-----Original Message-----

From: wksahc@juno.com [mailto:wksahc@juno.com]
Sent: Sunday, March 18, 2007 4:05 PM
To: Miller, Michele; dennisschmitt@missouri.edu
Subject: Fw: where we are at

Any thoughts??? I was also thinking of placing two penrose drains parallel to the closed incision to allow drainage should it get infected, rather than it draining through the incision....Kirk
Please note: forwarded message attached

Hi Michelle and Dennis,

Here's an update on where we are at and where we are going...Lady has ripped out two sets of sutures, one the original mucosal and skin, then just a mucosal repair. She went into estrus the first week of March and passed another small piece of the calf's head but nothing else except daily clear mucus. Everything else is normal. The incision has contracted about 30% now but as you can see, the left side is everted and reflected back to the skin, which is inverted but has migrated considerably. The rt side mucosal layer is flat, with the skin about 4-6cm from the margin. we perform bid hydrotherapy, then a flush, then apply ointment to the ventral aspect of the tail (kinda a windshield-wiper effect).....

We plan to perform another surgery next week by elevating and freshening the mucosal and skin margin, then inverting the mucosa, place a running suture (we placed interrupted last time and it just took too long and all were broken by her) in the mucosa, then either placing a surgical mesh and tacking it down for extra strength, and leave the skin alone, or not use the mesh and suture the skin again. We have another method worked out to prevent her from rubbing. Let me know your thoughts!!

Kirk

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The Kansas City Zoo
Parasitology Submission and Examination Worksheet

|

SUBMISSION DATA: (complete the top part of this form)

Species/Common Name(s) Loxodonta africana
African elephant

Date collected: 10/10/05
 d d m m y y

Accession Number(s): 102529 Lady

Collected by: PT

From enclosure: _____

Type of sample submitted:

- A. Fecal sample
- B. Rectal swab
- C. Skin scraping
- D. Ear swab/wash
- Other: _____

Reason/Purpose for submission:

- 1. Routine exam
- 2. Follow-up/Recheck exam
- 3. Diagnostic exam
- 4. Pre-shipment exam
- 5. Quarantine exam (number not specified)
- 6. Quarantine exam #1
- 7. Quarantine exam #2
- 8. Quarantine exam #3
- Other reason _____

Gross appearance:

- 1. Typical
- 2. Atypical

**** FOR LABORATORY USE ONLY (below this line) ****

Date of Examination : ____ / ____ / ____
 d d m m y y

- Examined by: 1. KMP
 2. WKS
 Other: _____

Sample storage conditions:

- 1. Room/ambient temperature
- 2. Refrigerated
- 8. Other conditions -- specify in Comments
- 9. Not specified

Sample consistency:

- 1. Liquid/watery
- 2. Soft
- 3. Formed
- 4. Hard/dry
- 5. Not specified

Unusual gross findings in stool:

- 1. Fresh blood
- 2. Excessive mucus
- 3. Melena or tarry
- 4. Foamy -- excess gas
- 5. Adult/larval parasite
- 6. None

Was there a problem with the sample or the examination that requires that the sample submission be repeated?

Yes No

Comments: _____

Test codes:

- 1. Direct Microscopic Exam
- 2. Floatation - Zinc sulfate
- 3. Baermann Sedimentation
- 4. Centrifugation
- 5. Gross Microscopic Exam
- 6. Gram Stain
- 7. Other: _____

Test	Results	Quantity
Direct		
Floatation		
Gram Stain	Yeast	
	Gram + rods	
	Gram + cocci	
	Gram - rods	
	Gram - cocci	

Comments:

Sent for submission
PCR