# Appendix H

# Wetchem Analysis

# Appendix H

# Wetchem Analysis

SOUTHWEST RESEARCH INSTITUTE®

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Chemistry and Chemical Engineering Division
Department of Analytical and Environmental Chemistry

January 11, 2005

INEEL
2525 North Fremont
Idaho Falls, ID 83415-3960

Attn: Kathleen A. Otter

| | | |
|---|---|---|
| Subject: | INEEL Contract No.: | 50157 |
| | INEEL SOW No.: | ER-SOW-473 |
| | SDG Number: | ECT121013Z |
| | SwRI Project Number: | 06355.38.00X |
| | SwRI Task Order Number: | 040719-12, 040820-12, 040921-8 |
| | SwRI Sample Receipt Number: | 26201, 26380, 26581 |
| | Samples Received: | July 16, August 19, and September 21, 2004 |
| | Wetchem analysis | |

Dear Ms. Otter:

Enclosed please find the cover page and analytical data for the above referenced project. If you should have any questions, please do not hesitate to call me at (210) 522-5428.

Sincerely,

Michael J. Dammann
Manager

APPROVED:

Reza Karimi, Ph.D.
Director

MJD:mar

DETROIT, MICHIGAN (248) 353-2550 • HOUSTON, TEXAS (713) 977-1377 • WASHINGTON, DC (301) 881-0226

010001

SOUTHWEST RESEARCH INSTITUTE
CLIENT: Bechtel BWXT Idaho, LLC
TASK ORDER: 040719-12, 040820-12, 040921-8
SRR: 26201, 26380, 26581
SDG: ECR061013Z, ECT061013Z, ECT121013Z
CASE: ER-SOW-473
VTSR: July 16, August 19, September 21, 2004
PROJECT#: 06355.38.006

# WETCHEM ANALYSIS

010002

SOUTHWEST RESEARCH INSTITUTE
CLIENT: Bechtel BWXT Idaho, LLC
TASK ORDER: 040719-12, 040820-12, 040921-8
SRR: 26201, 26380, 26581
SDG: ECR061013Z, ECT061013Z, ECT121013Z
CASE: ER-SOW-473
VTSR: July 16, August 19, September 21, 2004
PROJECT#: 06355.38.006

# SAMPLE DATA

010003

# Histopathic Report

**Analytical Report**

*Southwest Research Institute*
*Project 06355.38.006*
*Task Order # 040719-12,040820-12, 040921-8*

**Prepared by**

*Michael Dammann*
*Manager, Inorganics / Radiochemistry*
*Dr. Gene B. Hubbard, D.V.M., M.S. ACLAM, ACVP*
*Veterinary Pathologist*

**Prepared for**

*INEEL*
*ER-SOW-473*

## Sample Identification

010004

One hundred and five sets of organ samples for a total of two hundred and eight discrete samples were received at Southwest Research Institute. The samples were logged into the Laboratory Information Management System (LIMS), and each sample set was assigned a unique identification number, referred to as the SwRI Lab System ID. See Table 1 for cross-reference to the client ID. Appendix B contains the chain of custody information.

## Introduction

Tissue samples were mounted in a histological wax mount, stained, a microtone cross-section cut and the resulting thin tissue slice placed on a microscope slide and read under a microscope for anomalies by Dr. Gene B. Hubbard, D.V.M., M.S. ACLAM, ACVP Veterinary Pathologist. The samples were examined to determine if the quality of sample specimen was acceptable for further study, and if it was, then the samples were examined for anomalies including but not limited to inflammation, hemorrhage, necrosis, sarcocysa/skeletal muscle, cholangiohepatitis, interstitial nephritis, parasites, mineralization, neopasia or if the sample was essential normal. Anomalies were graded via the following guide: 0 - Normal, 1 - Minimal, 2 - Mild, 3 - Moderate, 4 - Moderate/severe, 5 - Severe. The resulting matrix of observations are presented as several table indication the sample identification and type (liver, kidney etc..) as well as any observed anomalies. Appendix A contains this table summary.

## Discussion

No lesions were recognized in the kidneys. All liver lesions were basically of two types; either a minimal increase in lymphocytes in portal and parenchymal areas and generally a gradation of focal to multifocal lesions consisting of acute necrosis, granulomas and finally mineralization in predominately portal areas. The latter lesions are generally associated with parasites and both tapeworm larvae and cross sections of nematode parasites were seen histologically. Lymphocytic inflammation is generally associated with viral infection. Serologic profiles would possibly help to define the viral disease burden. In summary these tissue changes are similar to those seen in the prior tissue submission and would be essentially what one would expect to see in a wild mouse population.

Table 1. Sample Receipt and Identification

010005

| SwRI Task Order | SwRI System ID | INEEL Animal ID | Tissue Type | Received Date |
|---|---|---|---|---|
| 040719-12 | 247880 | ECR061013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247885 | ECR061023Z | Spleen Only | 07/16/04 |
| 040719-12 | 247886 | ECR061033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247887 | ECR061043Z | Kidney Only | 07/16/04 |
| 040719-12 | 247888 | ECR061053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247889 | ECR062013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247894 | ECR062023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247895 | ECR062033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247896 | ECR062043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247897 | ECR062053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247898 | ECR063013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247903 | ECR063023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247904 | ECR063033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247905 | ECR063043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247906 | ECR063053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247907 | ECR064013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247912 | ECR064023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247913 | ECR064033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247914 | ECR064043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247915 | ECR064053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247916 | ECR065013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247921 | ECR065023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247922 | ECR065033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247923 | ECR065043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247924 | ECR065053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247925 | ECR066013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247930 | ECR066023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247931 | ECR066033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247932 | ECR066043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247933 | ECR066053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247934 | ECR067013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247939 | ECR067023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247940 | ECR067033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247941 | ECR067043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247942 | ECR067053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247943 | ECR068013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247948 | ECR068023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247949 | ECR068033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247950 | ECR068043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247951 | ECR068053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247952 | ECR069013Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247957 | ECR069023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247958 | ECR069033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247959 | ECR069043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247960 | ECR069053Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247961 | ECR070013Z | Liver/Kidney | 07/16/04 |

010006

**Table 1. Sample Receipt and Identification**

| SwRI Task Order | SwRI System ID | INEEL Animal ID | Tissue Type | Received Date |
|---|---|---|---|---|
| 040719-12 | 247966 | ECR070023Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247967 | ECR070033Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247968 | ECR070043Z | Liver/Kidney | 07/16/04 |
| 040719-12 | 247969 | ECR070053Z | Liver/Kidney | 07/16/04 |
| 040820-12 | 249749 | ECT061013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249750 | ECT061023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249751 | ECT061033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249752 | ECT061043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249753 | ECT061053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249754 | ECT062013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249755 | ECT062023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249756 | ECT062033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249757 | ECT062043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249758 | ECT062053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249759 | ECT063013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249760 | ECT063023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249761 | ECT063033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249762 | ECT063043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249763 | ECT063053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249764 | ECT064013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249765 | ECT064023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249766 | ECT064033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249767 | ECT064043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249768 | ECT064053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249769 | ECT065013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249770 | ECT065023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249771 | ECT065033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249772 | ECT065043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249773 | ECT065053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249774 | ECT066013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249775 | ECT066023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249776 | ECT066033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249777 | ECT066043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249778 | ECT066053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249779 | ECT067013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249780 | ECT067023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249781 | ECT067033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249782 | ECT067043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249783 | ECT067053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249784 | ECT068013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249785 | ECT068023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249786 | ECT068033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249787 | ECT068043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249788 | ECT068053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249789 | ECT069013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249790 | ECT069023Z | Liver/Kidney | 08/19/04 |

**Table 1. Sample Receipt and Identification** 010007

| SwRI Task Order | SwRI System ID | INEEL Animal ID | Tissue Type | Received Date |
|---|---|---|---|---|
| 040820-12 | 249791 | ECT069033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249792 | ECT069043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249793 | ECT069053Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249794 | ECT070013Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249795 | ECT070023Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249796 | ECT070033Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249797 | ECT070043Z | Liver/Kidney | 08/19/04 |
| 040820-12 | 249798 | ECT070053Z | Liver/Kidney | 08/19/04 |
| 040921-8 | 252004 | ECT121013Z | Liver/Kidney | 09/21/04 |
| 040921-8 | 252006 | ECT121023Z | Liver/Kidney | 09/21/04 |
| 040921-8 | 252007 | ECT121033Z | Liver/Kidney | 09/21/04 |
| 040921-8 | 252008 | ECT121043Z | Liver/Kidney | 09/21/04 |
| 040921-8 | 252009 | ECT121053Z | Liver/Kidney | 09/21/04 |

010008

# Appendix A

## Table Summary

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010009

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247880 | 1 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247885 | 2 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061023Z | | Kidney | U | NA | NA | NA | NA | Spleen only - no liver |
| | 247886 | 3 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247887 | 4 | Liver | U | NA | NA | NA | NA | No liver |
| | ECR061043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT - kidney only |
| | 247888 | 5 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247889 | 6 | Liver | S | 1 | 0 | 0 | 3? | Mineralization-probable parasitic granuloma |
| | ECR062013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247894 | 7 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR062023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247895 | 8 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR062033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247896 | 9 | Liver | S | 2 | 0 | 0 | 4? | Mineralization-probable parasitic granuloma |
| | ECR062043Z | | Kidney | S | 0 | 0 | 0 | 0 | |
| | 247897 | 10 | Liver | S | 4 | 2 | 0 | 2? | Necrosis with granoluma formation |
| | ECR062053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247898 | 11 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247903 | 12 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247904 | 13 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247905 | 14 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247906 | 15 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010010

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247907 | 16 | Liver | S | 3 | 1 | 0 | 2? | Multifocal granuloma, inflammation & necrosis |
| | ECR064013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247912 | 17 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR064023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247913 | 18 | Liver | S | 1 | 0 | 0 | 1? | Mineralization & granuloma - minimal |
| | ECR064033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247914 | 19 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR064043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247915 | 20 | Liver | S | 1 | 0 | 0 | 0 | Cholangiohepatitis - lymphocytic |
| | ECR064053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247916 | 21 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247921 | 22 | Liver | S | 1 | 0 | 0 | 1? | Minimal mineralization & granulomas |
| | ECR065023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247922 | 23 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247923 | 24 | Liver | S | 1 | 0 | 0 | 1? | Focal mineralization |
| | ECR065043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247924 | 25 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247925 | 26 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247930 | 27 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247931 | 28 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247932 | 29 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247933 | 30 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010011

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247934 | 31 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247939 | 32 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247940 | 33 | Liver | S | 0 | 0 | 0 | 5 | Nematode cross-section & gallbladder |
| | ECR067033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247941 | 34 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247942 | 35 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067063Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247943 | 36 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247948 | 37 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247949 | 38 | Liver | S | 1 | 0 | 0 | 0 | Cholangiohepatitis |
| | ECR068033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247950 | 39 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247951 | 40 | Liver | S | 1 | 1 | 0 | 1? | Focal cholangiohepatitis |
| | ECR068063Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247952 | 41 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247957 | 42 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247958 | 43 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247959 | 44 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247960 | 45 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069063Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010012

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247961 | 46 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247966 | 47 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247967 | 48 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247968 | 49 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247969 | 50 | Liver | S | 2 | 0 | 0 | 0 | Lymphocytic cholangitis |
| | ECR070053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249749 | 51 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249750 | 52 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249751 | 53 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249752 | 54 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249753 | 55 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249754 | 56 | Liver | S | 5 | 2 | 0 | 2? | Multiple granulomas & necrosis |
| | ECT062013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249755 | 57 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249756 | 58 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249757 | 59 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247958 | 60 | Liver | S | 2 | 0 | 0 | 5 | Tapeworm larvae multiple |
| | ECT062053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010013

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249759 | 61 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249760 | 62 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249761 | 63 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249762 | 64 | Liver | S | 1 | 0 | 0 | 0 | Lymphocytic inflammation |
| | ECT063043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249763 | 65 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249764 | 66 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249765 | 67 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249766 | 68 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249767 | 69 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249768 | 70 | Liver | S | 1 | 1 | 0 | 0 | |
| | ECT064053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249769 | 71 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249770 | 72 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249771 | 73 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249772 | 74 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249773 | 75 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

**HISTOPATHY RESULTS**

010014

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249774 | 76 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249775 | 77 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249776 | 78 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249777 | 79 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249778 | 80 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249779 | 81 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249780 | 82 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249781 | 83 | Liver | S | 2 | 2 | 0 | 0 | |
| | ECT067033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249782 | 84 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT67043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249783 | 85 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249784 | 86 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249785 | 87 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT068023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249786 | 88 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT068033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249787 | 89 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249788 | 90 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 50157

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z

SRR #: 26201, 26380, 26581
TO #: 04071912, 040820-12, 040921-8

010015

**HISTOPATHY RESULTS**

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249789 | 91 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT069013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249790 | 92 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT069023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249791 | 93 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT069033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249792 | 94 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT069043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249793 | 95 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT069053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249794 | 96 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249795 | 97 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249796 | 98 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249797 | 99 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249798 | 100 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252004 | 101 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT121013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252006 | 102 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT121023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252007 | 103 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT121033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252008 | 104 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT121043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252009 | 105 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT121053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

***Comment:***

Histology – No lesions were recognized in the kidneys. All liver lesions were basically of two types; either a minimal increase in lymphocytes in portal and parenchymal areas and generally a gradation of focal to multifocal lesions consisting of acute necrosis, granulomas and finally mineralization in predominately portal areas. The latter lesions are generally associated with parasites and both tapeworm larvae and cross sections of nematode parasites were seen histologically. Lymphocytic inflammation is generally associated with viral infection. Serologic profiles would possibly help to define the viral disease burden. In summary these tissue changes are similar to those seen in the prior tissue submission and would be essentially what one would expect to see in a wild mouse population.

010016

# Appendix B

## Chain of Custody

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21322

See Instructions On Back

Page 1 of 1

| 1 Sampler (Printed): | 2 Sampler (Signature): | 3 Project Name: Long-Term Ecological Monitoring 2004 | |
|---|---|---|---|
| Tom Haney | Tom Haney | 5 Sampling & Analysis Plan Number: ICPEXT04-00165 | 6 TOS/SOW/PSR Number: SOW-473 |
| 4 Laboratory Shipped To: | | | |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Reference Area Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR06101HG | 07JUL04 | 1052 | Plot 1 | NA | Deermice | Mercury | 4°C | INTACT |
| ECR06201HG | 01JUL04 | 1425 | Plot 2 | NA | | | | |
| ECR06301HG | 13JUL04 | 1303 | Plot 3 | | | | | |
| ECR06401HG | 13JUL04 | 1304 | Plot 4 | | | | | |
| ECR06501HG | 07JUL04 | 1114 | Plot 5 | | | | | |
| ECR06601HG | 01JUL04 | 1520 | Plot 6 | | | | | |
| ECR06701HG | 07JUL04 | 1122 | Plot 7 | | | | | |
| ECR06801HG | 01JUL04 | 1542 | Plot 8 | | | | | |
| ECR06901HG | 01JUL04 | 1600 | Plot 9 | | | | | |
| ECR07001HG | 8JUL04 | 1050 | Plot 10 | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 28201
Project #:06355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments:

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | [signature] | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | Cynthia A. Sanchez | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010017

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21323

See Instructions On Back

Page ____ of ____

| 1 Sampler (Printed) | 2 Sampler (Signature) | 3 Project Name: Long-Term Eco Monitoring 2004 | |
|---|---|---|---|
| Tom Haney | Tom H[illegible] | 5 Sampling & Analysis Plan Number: ICP EXT 04-00165 | 6 TOS/SOW/PSR Number: SOW 473 |
| 4 Laboratory Shipped To: SWRI | | | |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Reference Area Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR06101 ~~HG~~ N7 | 07JUL04 | 1052 | Plot 1 | NA | Peermice | Nitroaromatics | 4°C | INTACT |
| ECR06201 N7 | 01JUL04 | 1425 | Plot 2 | | | | | |
| ECR06301 N7 | 13JUL04 | 1303 | Plot 3 | | | | | |
| ECR06401 N7 | 13JUL04 | 1304 | Plot 4 | | | | | |
| ECR06501 N7 | 07JUL04 | 1114 | Plot 5 | | | | | |
| ECR06601 N7 | 01JUL04 | 1520 | Plot 6 | | | | | |
| ECR06701 N7 | 07JUL04 | 1122 | Plot 7 | | | | | |
| ECR06801 N7 | 01JUL04 | 1542 | Plot 8 | | | | | |
| ECR06901 N7 | 01JUL04 | 1600 | Plot 9 | | | | | |
| ECR07001 N7 | 8JUL04 | 1050 | Plot 10 | | | | | |

16 Comments:

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06365.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom H[illegible] | Tom Haney | 15JUL04 | 0930 | | | | |
| | | | | Cynthia A Saucedo | [illegible] | 07/16/04 | 0830AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010018

B-2

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21324

See Instructions On Back

Page 1 of 1

[1] Sampler (Printed): Tom Haney
[2] Sampler (Signature): Tom Haney
[3] Project Name: Long-Term Eco Monitoring 2004
[4] Laboratory Shipped To: SWRI For processing - then to GEL
[5] Sampling & Analysis Plan Number: ICP EXT04-00165
[6] TOS/SOW/PSR Number: SOW-473

| [7] Sample ID# | [8] Sample Date | [9] Sample Time | Reference Area Sample Location | [11] Depth | [12] Sample Matrix | [13] Analysis Type No(s) | [14] Preservative | [15] Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR06101RH | 07JUL04 | 1052 | Plot | NA | Deer mice | RADS | 4°C | INTACT |
| ECR06201RH | 01JUL04 | 1425 | Plot 2 | | | | | |
| ECR06301RH | 13JUL04 | 1303 | Plot 3 | | | | | |
| ECR06401RH | 13JUL04 | 1305 | Plot 4 | | | | | |
| ECR06501RH | 07JUL04 | 1114 | Plot 5 | | | | | |
| ECR06601RH | 01JUL04 | 1520 | Plot 6 | | | | | |
| ECR06701RH | 07JUL04 | 1122 | Plot 7 | | | | | |
| ECR06801RH | 01JUL04 | 1542 | Plot 8 | | | | | |
| ECR06901RH | 01JUL04 | 1400 | Plot 9 | | | | | |
| ECR07001RH | 8JUL04 | 1050 | Plot 10 | | | | | |

[16] Comments:

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06356.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

Cooler Number(s):

| [17] Relinquished By (Printed) | [18] Relinquished By (Signature) | [19] Date | [20] Time | [21] Received By (Printed) | [22] Received By (Signature) | [23] Date | [24] Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 15JUL04 | 0730 | | | | |
| | | | | Cynthia A. Salcedo | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010019

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21325

See Instructions On Back

Page ___ of ___

1 Sampler (Printed): Tom Haney
2 Sampler (Signature): Tom Haney
3 Project Name: Long-Term Ecological Monitoring 2004
4 Laboratory Shipped To: SWRI
5 Sampling & Analysis Plan Number: ICP EST 04-00165
6 TOS/SOW/PSR Number: SOW-473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Reference ACM Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR06101LA | 07JUL04 | 1052 | Plot 1 | NA | Decrinice | Metals | 4° C | INTACT |
| ECR06201LA | 07JUL04 | 1425 | Plot 2 | | | TAL | | |
| ECR06301LA | 13JUL04 | 1303 | Plot 3 | | | | | |
| ECR06401LA | 13JUL04 | 1301 | Plot 4 | | | | | |
| ECR06501LA | 07JUL04 | 1114 | Plot 5 | | | | | |
| ECR06601LA | 15JUL04 | 1520 | Plot 6 | | | | | |
| ECR06701LA | 07JUL04 | 1122 | Plot 7 | | | | | |
| ECR06801LA | 15JUL04 | 1542 | Plot 8 | | | | | |
| ECR06901LA | 15JUL04 | 1600 | Plot 9 | | | | | |
| ECR07001LA | 8JUL04 | 1050 | Plot 10 | | | | | |

16 Comments:

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 07JUL04 | 0930 | | | | |
| | | | | Cynthia A. Salcedo | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010020

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21332

See Instructions On Back

Page 1 of 1

| | |
|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): Tom H |
| 3 Project Name: Long-Term Ecological Monitoring 2004 | |
| 4 Sampling & Analysis Plan Number: ICPEXT04-00165 | 5 TOS/SOW/PSR Number: SOW-473 |
| 6 Laboratory Shipped To: SWRI | |

| 7 Sample ID# * → See #16 "Comments" | 8 Sample Date | 9 Sample Time | Reference Area | Sample Location | 11 Depth Inches | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|---|
| ECR10101 | 12JUL04 | 0930 | Plot | 1 | 2-18 | Subsurface | See | 4°C | INTACT |
| ECR10102 | 12JUL04 | 0930 | | 1 | 2-18 | Soil | Comments | | |
| ECR10201 | 12JUL04 | 1050 | | 2 | 2-15 | | for | | |
| ECR10301 | 12JUL04 | 1220 | | 3 | 2-24 | | suffix | | |
| ECR10401 | 12JUL04 | 1430 | | 4 | 2-24 | | explanation | | |
| ECR10501 | 12JUL04 | 1330 | | 5 | 2-24 | | | | |
| ECR10601 | 08JUL04 | 1130 | | 6 | 2-24 | | | | |
| ECR10701 | 08JUL04 | 1045 | | 7 | 2-24 | | | | |
| ECR10801 | 08JUL04 | 1407 | | 8 | 2-24 | | | | |
| ECR10901 | 08JUL04 | 0859 | | 9 | 2-24 | | | | |
| ECR11001 | 08JUL04 | 0959 | | 10 | 2-24 | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 28201
Project #:06356.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments: *Sample ID suffixes — 3A = Analysis Suite #1 = Moisture content, pH, cation exchange capacity
HG = Mercury N7 = Nitroaromatics LA = Total metals

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | CYNTHIA A. SAUCEDA | | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010021

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21333

See Instructions On Back

Page ___ of ___

1 Sampler (Printed): Tom Haney
2 Sampler (Signature): [signature]
3 Project Name: Long-Term Ecological Mon. 2004
4 Laboratory Shipped To: SwRI
5 Sampling & Analysis Plan Number: KPERT04-00165
6 TOS/SOW/PSR Number: SOW-473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Reference Area Sample Location | 11 Depth inches | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR09101 | 12JUL04 | 0930 | Plot 1 | 0-2 | Surface | Sample | 4°C | INTACT |
| ECR09102 | 25JUL04 | 0930 | 1 | | Soil | ID suffix | | |
| ECR09201 | 12JUL04 | 1090 | 2 | | | explanation | | |
| ECR09301 | 12JUL04 | 1220 | 3 | | | under | | |
| ECR09401 | 12JUL04 | 1430 | 4 | | | * Comments | | |
| ECR09501 | 12JUL04 | 1530 | 5 | | | below | | |
| ECR09601 | 08JUL04 | 1130 | 6 | | | | | |
| ECR09701 | 08JUL04 | 1045 | 7 | | | | | |
| ECR09801 | 08JUL04 | 1407 | 8 | | | | | |
| ECR09901 | 08JUL04 | 0859 | 9 | | | | | |
| ECR10001 | 08JUL04 | 0859 | 10 | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06366.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments: * Sample ID suffix — 3A = Analysis Suite #1 = Moisture Content, pH, cation exchange capacity
HG = Mercury N7 = Nitroaromatics LA = Total metals (TAL)

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | [signature] | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | Cynthia A. Sanchez | [signature] | 07/16/04 | 0830 AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010022

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21336

See Instructions On Back

Page 5 of 5

| | | | |
|---|---|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): [signature] | 3 Project Name: Long-Term Eco Monitoring 2004 | |
| 4 Laboratory Shipped To: SWRI | | 5 Sampling & Analysis Plan Number: ICPEXT04-00165 | 6 TOS/SOW/PSR Number: SOW-473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Reference Area Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR060013Z | 7/1/04 | 15:45 | Plot 9 | NA | Deermice | Histopathic | Formalin | INTACT |
| ECR069023Z | 7/1/04 | 15:46 | | | | | | |
| ECR069033Z | 7/1/04 | 15:49 | | | | | | |
| ECR069043Z | 7/1/04 | 15:51 | | | | | | |
| ECR069053Z | 7/1/04 | 15:59 | | | | | | |
| ECR070013Z | 7/1/04 | 16:01 | Plot 10 | | | | | |
| ECR070023Z | 7/1/04 | 16:03 | | | | | | |
| ECR070033Z | 7/1/04 | 16:04 | | | | | | |
| ECR070043Z | 7/7/04 | 11:12 | | | | | | |
| ECR070053Z | 7/8/04 | 10:50 | | | | | | |

16 Comments:

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | [illegible] | [signature] | 07/16/04 | 0830AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010023

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21337

See Instructions On Back

Page 4 of 5

[1] Sampler (Printed): Tom Haney
[2] Sampler (Signature): Tom Haney
[3] Project Name: Long-Term Eco Monitoring 2004
[4] Laboratory Shipped To: SWRI
[5] Sampling & Analysis Plan Number: KPEXT04-00165
[6] TOS/SOW/PSR Number: SOW-473

| [7] Sample ID# | [8] Sample Date | [9] Sample Time | Reference Area Sample Location | [11] Depth | [12] Sample Matrix | [13] Analysis Type No(s) | [14] Preservative | [15] Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR067013Z | 7/1/04 | 15:22 | Plot 7 | NA | Kidney + Liver | Histopathic | Formalin | INTACT |
| ECR067023Z | 7/1/04 | 15:22 | | | | | | |
| ECR067033Z | 7/1/04 | 15:27 | | | | | | |
| ECR067043Z | 7/1/04 | 15:29 | | | | | | |
| ECR067053Z | 7/1/04 | 15:31 | | | | | | |
| ECR068013Z | 7/1/04 | 15:34 | Plot 8 | | | | | |
| ECR068023Z | 7/1/04 | 15:36 | | | | | | |
| ECR068033Z | 7/1/04 | 15:40 | | | | | | |
| ECR068043Z | 7/1/04 | 15:40 | | | | | | |
| ECR068053Z | 7/1/04 | 15:41 | | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 28201
Project #:06366.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

[16] Comments:

Cooler Number(s):

| [17] Relinquished By (Printed) | [18] Relinquished By (Signature) | [19] Date | [20] Time | [21] Received By (Printed) | [22] Received By (Signature) | [23] Date | [24] Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 15JUL04 | 0930 | | | | |
| | | | | Cynthia A. Sanchez | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010024

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21338

See Instructions On Back

Page 3 of 5

[1] Sampler (Printed): Tom Haney
[2] Sampler (Signature): Tom Haney
[3] Project Name: Long-Term Eco Monitoring 2004
[4] Sampling & Analysis Plan Number: KPEXT04-00165
[5] TOS/SOW/PSR Number: SOW473
[6] Laboratory Shipped To: SWRI

| [7] Sample ID# | [8] Sample Date | [9] Sample Time | Sample Location | [11] Depth | [12] Sample Matrix | [13] Analysis Type No(s) | [14] Preservative | [15] Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR065013Z | 7/1/04 | 14:50 | Plot 5 | NA | Kidney Liver | Histopathic | Formalin | INTACT |
| ECR065023Z | 7/1/04 | 14:55 | | | | | | |
| ECR065033Z | 7/1/04 | 14:57 | | | | | | |
| ECR065043Z | 7/1/04 | 14:58 | | | | | | |
| ECR065053Z | 7/1/04 | 15:02 | | | | | | |
| ECR066013Z | 7/1/04 | 15:07 | Plot 6 | | | | | |
| ECR066023Z | 7/1/04 | 15:09 | | | | | | |
| ~~ECR066023Z~~ | ~~7/1/04~~ | ~~15:10~~ | | | | | | |
| ECR066033Z | 7/1/04 | 15:10 | | | | | | |
| ECR066043Z | 7/1/04 | 15:16 | | | | | | |
| ECR066053Z | 7/1/04 | 15:17 | | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06366.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

[16] Comments:

Cooler Number(s):

| [17] Relinquished By (Printed) | [18] Relinquished By (Signature) | [19] Date | [20] Time | [21] Received By (Printed) | [22] Received By (Signature) | [23] Date | [24] Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 15JUL04 | 0930 | | | | |
| | | | | Lynthea A. Sanchez | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010025

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21339

See Instructions On Back

Page 2 of 5

1 Sampler (Printed): Tom Haney
2 Sampler (Signature): Tom H
3 Project Name: Long-Term Eco Monitoring 2004
4 Laboratory Shipped To: SWRI
5 Sampling & Analysis Plan Number: ICPEXT04-00165
6 TOS/SOW/PSR Number: SOW 473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Ref. Area | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|---|
| ECR063013Z | 7/1/04 | 14:15 | | Plot 3 | NA | Liver + Kidney | Histopathic | Formalin | INTACT |
| ECR063023Z | 7/1/04 | 14:15 | | | | | | | |
| ECR063033Z | 7/1/04 | 14:23 | | | | | | | |
| ECR063043Z | 7/7/04 | 10:52 | | | | | | | |
| ECR063053Z | 7/7/04 | 10:55 | | | | | | | |
| ECR064013Z | 7/1/04 | 14:44 | | Plot 4 | NA | | | | |
| ECR064023Z | 7/1/04 | 14:44 | | | | | | | |
| ECR064033Z | 7/1/04 | 14:47 | | | | | | | |
| ECR064043Z | 7/7/04 | 11:00 | | | | | | | |
| ECR064053Z | 7/13/04 | 13:00 | | | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments:

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom H | 13 JUL 04 | 0930 | | | | |
| | | | | CYNTHIA A. SANCHEZ | | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010026

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21340

See Instructions On Back

Page 1 of 5

| | |
|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): Tom Haney |
| 3 Project Name: Long-Term Eco Monitoring 2004 | |
| 4 Laboratory Shipped To: SWRI | 5 Sampling & Analysis Plan Number: ICPEXT04-00165 |
| | 6 TOS/SOW/PSR Number: SOW 473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Reference Area Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR061013Z | 01JUL04 | 1326 | Plot 1 | NA | Liver + Kidney | Histopathi- | Formalin | INTACT |
| ECR061023Z | 01JUL04 | 1327 | | | | | | |
| ECR061033Z | 01JUL04 | 1340 | | | | | | |
| ~~ECR062013Z~~ | — | — | | | | | | |
| ECR061043Z | 7/7/04 | 10:45 | | | | | | |
| ECR061053Z | 7/7/04 | 10:45 | | | | | | |
| ECR062013Z | 01JUL04 | 1347 | Plot 2 | NA | | | | |
| ECR062023Z | | 1347 | | | | | | |
| ECR062033Z | | 1356 | | | | | | |
| ECR062043Z | | 1359 | | | | | | |
| ECR062053Z | | 1405 | | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:04355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments:

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | [signature] | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | Cynthia A. Salcedo | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010027

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21371

See Instructions On Back

Page ____ of ____

| 1 Sampler (Printed) | 2 Sampler (Signature) | 3 Project Name | 4 Sampling & Analysis Plan Number | 5 TOS/SOW/PSR Number |
|---|---|---|---|---|
| Tom Haney | [signature] | Long-Term Ecological Monitoring 2004 | ICP EXT 04-00165 | SOW-473 |

4 Laboratory Shipped To: SWRI

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Reference Area Sample Location | | 11 ~~Depth~~ NA | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|---|
| ECR07101 | 13JUL04 | 1300 | Plot | 1 | | Sage Brush (ArTr) | See 16 Comments for Suffix | 4°C | INTACT |
| ECR07102 | 13JUL04 | 1300 | | 1 | | | | | |
| ECR07201 | 13JUL04 | 1245 | | 2 | | | | | |
| ECR07301 | 13JUL04 | 0935 | | 3 | | | | | |
| ECR07401 | 13JUL04 | 0935 | | 4 | | | | | |
| ECR07501 | 13JUL04 | 1100 | | 5 | | | | | |
| ECR07601 | 14JUL04 | 0900 | | 6 | | | | | |
| ECR07701 | 14JUL04 | 0930 | | 7 | | | | | |
| ECR07801 | 14JUL04 | 1000 | | 8 | | | | | |
| ECR07901 | 14JUL04 | 1100 | | 9 | | | | | |
| ECR08001 | 14JUL04 | 1130 | | 10 | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06355.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments: HG = Mercury N7 = Nitroaromatics LA = Total Metals (TAL)

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom H | 15JUL04 | 0930 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | CYNTHIA A. SANCEDA | [signature] | 07/16/04 | 0830AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010028

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21378

See Instructions On Back

Page ____ of ____

| | |
|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): Tom Haney |
| 3 Project Name: Long Term Ecological Monitoring 2004 | |
| 4 Laboratory Shipped To: SWRI | 5 Sampling & Analysis Plan Number: ICPEXT04-00165 |
| | 6 TOS/SOW/PSR Number: SOW-473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | Area Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR08101 | 13JUL04 | 1300 | Plot 1 | NA | Indian Rice Grass (Oryzopsis) * | See Comments | 4°C | INTACT |
| ECR08102 | 13JUL04 | 1300 | 1 | | | | | |
| ECR08201 | 13JUL04 | 1245 | 2 | | | | | |
| ECR08301 | 13JUL04 | 0935 | 3 | | | | | |
| ECR08401 | 13JUL04 | 0935 | 4 | | | | | |
| ECR08501 | 13JUL04 | 1100 | 5 | | | | | |
| ECR08601 | 14JUL04 | 0900 | 6 | | | | | |
| ECR08701 | 14JUL04 | 0930 | 7 | | | | | |
| ECR08801 | 14JUL04 | 1000 | 8 | | | | | |
| ECR08901 | 14JUL04 | 1100 | 9 | | | | | |
| ECR09001 | 14JUL04 | 1130 | 10 | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26291
Project #:96385.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 09:30AM
All samples intact.

16 Comments: * No crested wheatgrass available to sample
HG = Mercury NT = Nitroaromatics LA = Total Metals (TAL)

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom Haney | 15JUL04 | 0930 | | | | |
| | | | | CYNTHIA A. SANCHEZ | [signature] | 07/16/04 | 09:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010029

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM** 21378

See Instructions On Back

Page ___ of ___

| | | | |
|---|---|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): Tom H | 3 Project Name: Long Term Ecological Monitoring 2004 | |
| 4 Laboratory Shipped To: SWRI | | 5 Sampling & Analysis Plan Number: ICPEXT04-00165 | 6 TOS/SOW/PSR Number: SOW-473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Area Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECR08101 | 13JUL04 | 1300 | Plot 1 | NA | Indian Rice Grass (oryzopsis) * | See 16 Comments | 4°C | INTACT |
| ECR08102 | 13JUL04 | 1300 | 1 | | | | | |
| ECR08201 | 13JUL04 | 1245 | 2 | | | | | |
| ECR08301 | 13JUL04 | 0935 | 3 | | | | | |
| ECR08401 | 13JUL04 | 0935 | 4 | | | | | |
| ECR08501 | 13JUL04 | 1100 | 5 | | | | | |
| ECR08601 | 14JUL04 | 0900 | 6 | | | | | |
| ECR08701 | 14JUL04 | 0930 | 7 | | | | | |
| ECR08801 | 14JUL04 | 1000 | 8 | | | | | |
| ECR08901 | 14JUL04 | 1100 | 9 | | | | | |
| ECR09001 | 14JUL04 | 1130 | 10 | | | | | |

Client: Bechtel BWXT Idaho, LLC
SRR: 26201
Project #:06385.38.00X
Case#: ER-SOW-473
VTSR: 07/16/2004 Time: 08:30AM
All samples intact.

16 Comments: * No crested wheatgrass available to sample
HG = Mercury NT = Nitroaromatics LA = Total Metals (TAL)

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | Tom H | 15JUL04 | 0930 | | | | |
| | | | | CYNTHIA A. SANCEDA | [signature] | 07/16/04 | 08:30AM |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

THERMOMETER 027
TEMPERATURE 4.0°C

010030

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

25931

See Instructions On Back

Page 2 of 4

1 Sampler (Printed): Tom Haney
2 Sampler (Signature):
3 Project Name: Long Term Ecological Monitoring
4 Laboratory Shipped To: SWRI
5 Sampling & Analysis Plan Number: ICP EXT 04. 00165
6 TOS/SOW/PSR Number: 473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | INTEL 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT0630537 | 29AUG04 | 1251 | Plot 3 | NA | Kidneys | Histopathy | Formalin | |
| ECT0640137 | | 0828 | 4 | | Livers | | | |
| ECT0640237 | | 0828 | 4 | | | | | |
| ECT0640337 | | 0832 | 4 | | | | | |
| ECT0640437 | | 0837 | 4 | | | | | |
| ECT0640537 | | 0840 | 4 | | | | | |
| ECT0650137 | | 0850 | 5 | | | | | |
| ECT0650237 | | 0851 | 5 | | | | | |
| ECT0650337 | | 0900 | 5 | | | | | |
| ECT0650437 | | 0900 | 5 | | | | | |
| ECT0650537 | | 0902 | 5 | | | | | |
| ECT0660137 | | 0910 | 6 | | | | | |
| ECT0660237 | | 0911 | 6 | | | | | |
| ECT0660337 | | 0916 | 6 | | | | | |

Client: BECHTEL BWXT IDAHO, LLC
SRR #26380
Project #06355.38.00X
Case: ER-SOW-473
VTSR: 08/19/04 1455

16 Comments: Samples Intact 22.0°C/#027

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | | 19AUG04 | 1000 | Dave Roman | | 8/19/04 | 1155 |
| | | | | | | | |
| | | | | | | | |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010031

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

25932

See Instructions On Back

Page 3 of 4

| | | | |
|---|---|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): [signature] | 3 Project Name: Long-Term Ecological Monitoring | |
| 4 Laboratory Shipped To: SWRI | | 5 Sampling & Analysis Plan Number: ICP EXT 04 00165 | 6 TOS/SOW/PSR Number: 473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT066043Z | 29JUL04 | 0916 | Plot 6 | NA | Kidneys | Histopathy | FormalIN | |
| ECT066053Z | | 0920 | 6 | | Livers | | | |
| ECT067013Z | | 0929 | 7 | | | | | |
| ECT067023Z | | 0929 | 7 | | | | | |
| ECT067033Z | | 0935 | 7 | | | | | |
| ECT067043Z | | 0936 | 7 | | | | | |
| ECT067053Z | | 0940 | 7 | | | | | |
| ECT068013Z | | 1015 | 8 | | | | | |
| ECT068023Z | | 1015 | 8 | | | | | |
| ECT068033Z | | 1020 | 8 | | | | | |
| ECT068043Z | | 1022 | 8 | | | | | |
| ECT068053Z | | 1023 | 8 | | | | | |
| ECT069013Z | | 1037 | 9 | | | | | |
| ECT069023Z | | 1037 | 9 | | | | | |

Client: BECHTEL BWXT IDAHO, LLC
SRR #26380
Project #06355 38.00X
Case: ER-SOW-473
VTSR: 08/19/04 1455

16 Comments:

22.0°C/#027
Samples Intact

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | [signature] | 18AUG04 | 1000 | Dave Roman | [signature] | 8/19/04 | 1455 |
| | | | | | | | |
| | | | | | | | |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010032

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21334

See Instructions On Back

Page 4 of 4

1 Sampler (Printed): Tom Haney
2 Sampler (Signature):
3 Project Name: Long-Term Ecological Monitoring
4 Laboratory Shipped To: SWRI
5 Sampling & Analysis Plan Number: ICP EXT 04 -00165
6 TOS/SOW/PSR Number: 473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT0690332 | 29 JUL04 | 1041 | Plot 9 | NA | Kidneys | Histopathy | Formalin | |
| ECT0690432 | | 1043 | 9 | | Liver | | | |
| ECT0690532 | | 1047 | 9 | | | | | |
| ECT0700132 | | 1100 | 10 | | | | | |
| ECT0700232 | | 1100 | 10 | | | | | |
| ECT0700332 | | 1104 | 10 | | | | | |
| ECT0700432 | | 1105 | 10 | | | | | |
| ECT0700532 | | 1106 | 10 | | | | | |

Client: BECHTEL BWXT IDAHO, LLC
SRR #26380
Project #06355 38 00X
Case: ER-SOW-473
VTSR: 08/19/04 1455

16 Comments: 22.0°C/#027 Samples Intact

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | | 8/4/04 | 1000 | Dave Thomas | | 8/19/04 | 1455 |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010033

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21394

See Instructions On Back

Page 1 of 1

1 Sampler (Printed): Tom Haney
2 Sampler (Signature): [signature]
3 Project Name: Long-Term Ecological Monitoring
4 Laboratory Shipped To: SWRI TSF-07
5 Sampling & Analysis Plan Number: ICP EXT 04-00165
6 TOS/SOW/PSR Number: 473

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT121013Z | 16SEP04 | 1110 | Trap 52 | NA | Liver | Histopathic | Formalin | Tag# 833 |
| ECT121023Z | | 1112 | ~~[illegible]~~ 72 | | and | | | Tag# 826 |
| ECT121033Z | | 1122 | Trap 23 | | Kidneys | | | Tag# 916 |
| ECT121043Z | | 1132 | Trap 21 | | | | | Tag# 218 |
| ECT121053Z | | 1142 | Trap 12 | | | | | Tag# 205 |
| ~~ECT121063Z~~ | | | | | | | | |
| ~~ECT121073Z~~ | | | | | | | | |
| ~~ECT121083Z~~ | | | | | | | | |
| ~~ECT121093Z~~ | | | | | | | | |
| ~~ECT121103Z~~ | | | | | | | | |
| ECT12101 HG, LA, RH, 22 | | | | | | | | |

6 to 10 not collected

16 SEP 04

Client: BECHTEL IDAHO, LLC
SRR #26581
Project #06355.38.00X
Case: ER-SOW 473
VTSR: 09/21/04 0900

16 Comments: (Deermice Organs) (ECT12106 – ECT 12110 not collected)

Cooler Number(s):

4.0°C/#027 Rec'd Intact

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | [signature] | 20SEP04 | 1100 | Dino Romano | [signature] | 9/21/04 | 0900 |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010034

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21396

See Instructions On Back

Page 1 of 1

| | | | |
|---|---|---|---|
| 1 Sampler (Printed): Tom Haney | 2 Sampler (Signature): | 3 Project Name: Long-Term Ecological Monitoring | |
| 4 Laboratory Shipped To: SWRI | T3F-07 | 5 Sampling & Analysis Plan Number: ICP EXT04-00165 | 6 TOS/SOW/PSR Number: 473 |

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT12101HG | 16SEP04 | 1100 | Plot 1 | NA | Deer-Mouse | HG= mercury | 4°C | |
| ~~ECT12102HG~~ | ~~"~~ | ~~"~~ | | | | | | |
| ECT12101LA | 16SEP04 | 1100 | Plot 1 | | | LA= Total Metals (TAL) | | |
| ~~ECT12102LA~~ | ~~"~~ | ~~"~~ | | | | | | |

Client: BECHTEL IDAHO, LLC
SRR #26581
Project #06355.38.00X
Case: ER SOW-473
VTSR: 09/21/04 0900

16 Comments: Duplicate mouse sample not collected.

4.0C/#077 Rachel Indect

Cooler Number(s):

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | | 20SEP04 | 1100 | Dino Roman | | 9/21/04 | 0900 |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010035

435.20
9/11/2002
Rev. 02

**INEEL CHAIN OF CUSTODY FORM**

21397

See Instructions On Back

Page 1 of 1

1 Sampler (Printed): Tom Haney
2 Sampler (Signature):
3 Project Name: Long Term Ecological Monitoring
4 Laboratory Shipped To: GEL
5 Sampling & Analysis Plan Number: ICPEXT04-00165
6 TOS/SOW/PSR Number: 472

| 7 Sample ID# | 8 Sample Date | 9 Sample Time | 10 Sample Location | 11 Depth | 12 Sample Matrix | 13 Analysis Type No(s) | 14 Preservative | 15 Remarks |
|---|---|---|---|---|---|---|---|---|
| ECT12101R4 | 16SEP04 | 1100 | TSF-07 | N/A | Deer mice | Rad Suite1 | 4°C | |
| ~~ECT12102R4~~ | ~~INORMA~~ | | ~~Plot 1~~ | | | Am 241 | | |
| | | | | | | gamma Spec | | |
| | | | | | | Pu-150 | | |
| | | | | | | U-150 | | |
| | | | | | | Sr-90 | | |

Client: BECHTEL IDAHO, LLC
SRR #26581
Project #06355.38.00X
Case: ER-SOW-473
VTSR: 09/21/04 0900

16 Comments: SWRI receives mice, preptres them, and sends portion to GEL.
(Duplicate not collected)

Cooler Number(s): 4.0°C/#027 Rec'd Intact

| 17 Relinquished By (Printed) | 18 Relinquished By (Signature) | 19 Date | 20 Time | 21 Received By (Printed) | 22 Received By (Signature) | 23 Date | 24 Time |
|---|---|---|---|---|---|---|---|
| Tom Haney | | 21SEP04 | 1100 | Dino Romano | | 9/21/04 | 0900 |

Distribution: Original & Yellow: Accompany Shipment To Laboratory Pink: Forward To Sample Management Green: Retained By Project

010036

010037

SOUTHWEST RESEARCH INSTITUTE
CLIENT: Bechtel BWXT Idaho, LLC
TASK ORDER: 040719-12, 040820-12, 040921-8
SRR: 26201, 26380, 26581
SDG: ECR061013Z, ECT061013Z, ECT121013Z
CASE: ER-SOW-473
VTSR: July 16, August 19, September 21, 2004
PROJECT#: 06355.38.006

# RAW DATA

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247880 | 1 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247885 | 2 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061023Z | | Kidney | U | NA | NA | NA | NA | Spleen only - no liver |
| | 247886 | 3 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247887 | 4 | Liver | U | NA | NA | NA | NA | No liver |
| | ECR061043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT - kidney only |
| | 247888 | 5 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR061053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247889 | 6 | Liver | S | 1 | 0 | 0 | 3? | Mineralization-probable parasitic granuloma |
| | ECR062013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247894 | 7 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR062023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247895 | 8 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR062033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247896 | 9 | Liver | S | 2 | 0 | 0 | 4? | Mineralization-probable parasitic granuloma |
| | ECR062043Z | | Kidney | S | 0 | 0 | 0 | 0 | |
| | 247897 | 10 | Liver | S | 4 | 2 | 0 | 2? | Necrosis with granoluma formation |
| | ECR062053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247898 | 11 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247903 | 12 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247904 | 13 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247905 | 14 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247906 | 15 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR063053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010038

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06356.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247907 | 16 | Liver | S | 3 | 1 | 0 | 2? | Multifocal granuloma, inflammation & necrosis |
| | ECR064013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247912 | 17 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR064023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247913 | 18 | Liver | S | 1 | 0 | 0 | 1? | Mineralization & granuloma - minimal |
| | ECR064033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247914 | 19 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR064043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247915 | 20 | Liver | S | 1 | 0 | 0 | 0 | Cholangiohepatitis - lymphocytic |
| | ECR064053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247916 | 21 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247921 | 22 | Liver | S | 1 | 0 | 0 | 1? | Minimal mineralization & granulomas |
| | ECR065023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247922 | 23 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247923 | 24 | Liver | S | 1 | 0 | 0 | 1? | Focal mineralization |
| | ECR065043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247924 | 25 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR065053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247925 | 26 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247930 | 27 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247931 | 28 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247932 | 29 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247933 | 30 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR066053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

Client: INEEL
Contract #: 60157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247934 | 31 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247939 | 32 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247940 | 33 | Liver | S | 0 | 0 | 0 | 5 | Nematode cross-section & gallbladder |
| | ECR067033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247941 | 34 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247942 | 35 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR067053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247943 | 36 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247948 | 37 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247949 | 38 | Liver | S | 1 | 0 | 0 | 0 | Cholangiohepatitis |
| | ECR068033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247950 | 39 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR068043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247951 | 40 | Liver | S | 1 | 1 | 0 | 1? | Focal cholangiohepatitis |
| | ECR068053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247952 | 41 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247957 | 42 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247958 | 43 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247959 | 44 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247960 | 45 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR069053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010040

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247961 | 46 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247966 | 47 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247967 | 48 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247968 | 49 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECR070043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247969 | 50 | Liver | S | 2 | 0 | 0 | 0 | Lymphocytic cholangitis |
| | ECR070053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249749 | 51 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249750 | 52 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249751 | 53 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249752 | 54 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249753 | 55 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT061053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249754 | 56 | Liver | S | 5 | 2 | 0 | 2? | Multiple granulomas & necrosis |
| | ECT062013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249755 | 57 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249756 | 58 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249757 | 59 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT062043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 247958 | 60 | Liver | S | 2 | 0 | 0 | 5 | Tapeworm larvae multiple |
| | ECT062053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010041

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249759 | 61 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249760 | 62 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249761 | 63 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249762 | 64 | Liver | S | 1 | 0 | 0 | 0 | Lymphocytic inflammation |
| | ECT063043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249763 | 65 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT063053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249764 | 66 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249765 | 67 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249766 | 68 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249767 | 69 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT064043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249768 | 70 | Liver | S | 1 | 1 | 0 | 0 | |
| | ECT064053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249769 | 71 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249770 | 72 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249771 | 73 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249772 | 74 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249773 | 75 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT065053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010042

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249774 | 76 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249775 | 77 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249776 | 78 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249777 | 79 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249778 | 80 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT066053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249779 | 81 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249780 | 82 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249781 | 83 | Liver | S | 2 | 2 | 0 | 0 | |
| | ECT067033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249782 | 84 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT67043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249783 | 85 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT067053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249784 | 86 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249785 | 87 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT068023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249786 | 88 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT068033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249787 | 89 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249788 | 90 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT068053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010043

Client: INEEL
Contract #: 50157
Case #: ER-SOW-473

SwRI Project #: 06355.08.006
SDG: ECR061013Z, ECT061013Z, ECT121013Z
HISTOPATHY RESULTS

SRR #: 26201, 26380, 26581
TO #: 040719-12, 040820-12, 040921-8

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | Comments |
|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249789 | 91 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT069013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249790 | 92 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT069023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249791 | 93 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT069033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249792 | 94 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT069043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249793 | 95 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT069053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249794 | 96 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249795 | 97 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249796 | 98 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249797 | 99 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 249798 | 100 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT070053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252004 | 101 | Liver | S | 2 | 0 | 0 | 0 | |
| | ECT121013Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252006 | 102 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT121023Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252007 | 103 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT121033Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252008 | 104 | Liver | S | 1 | 0 | 0 | 0 | |
| | ECT121043Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |
| | 252009 | 105 | Liver | S | 0 | 0 | 0 | 0 | ENT |
| | ECT121053Z | | Kidney | S | 0 | 0 | 0 | 0 | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, N/A - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

010045

## SFBR PATHOLOGY REPORT

Accession No.: S04-0784 Animal/Tissue ID: See below Genus/species: MUS

IACUC: N/A

Date of Biopsy: 10/19/04 Location of Biopsy: NSFBR Sex: Unk

mo/day/yr

Date of Est. Birth: 01/01/04

Person to receive pathology report: Dr. Dammann Account No.: SFBRI

Gross Description:

| | | | | | | |
|---|---|---|---|---|---|---|
| 247880-1 | 247907-16 | 247934-31 | 247961-46 | 249759-61 | 249774-76 | 249789-91 |
| 247885-2 | 247912-17 | 247939-32 | 247966-47 | 249760-62 | 249775-77 | 249790-92 |
| 247886-3 | 247913-18 | 247940-33 | 247967-48 | 249761-63 | 249776-78 | 249791-93 |
| 247887-4 | 247914-19 | 247941-34 | 247968-49 | 249762-64 | 249777-79 | 249792-94 |
| 247888-5 | 247915-20 | 247942-35 | 247969-50 | 249763-65 | 249778-80 | 249793-95 |
| 247889-6 | 247916-21 | 247943-36 | 249749-51 | 249764-66 | 249779-81 | 249794-96 |
| 247894-7 | 247921-22 | 247948-37 | 249750-52 | 249765-67 | 249780-82 | 249795-97 |
| 247895-8 | 247922-23 | 247949-38 | 249751-53 | 249766-68 | 249781-83 | 249796-98 |
| 247896-9 | 247923-24 | 247950-39 | 249752-54 | 249767-69 | 249782-84 | 249797-99 |
| 247897-10 | 247924-25 | 247951-40 | 249753-55 | 249768-70 | 249783-85 | 249798-100 |
| 247898-11 | 247925-26 | 247952-41 | 249754-56 | 249769-71 | 249784-86 | 252004-101 |
| 247903-12 | 247930-27 | 247957-42 | 249755-57 | 249770-72 | 249785-87 | 252006-102 |
| 247904-13 | 247931-28 | 247958-43 | 249756-58 | 249771-73 | 249786-88 | 252007-103 |
| 247905-14 | 247932-29 | 247959-44 | 249757-59 | 249772-74 | 249787-89 | 252008-104 |
| 247906-15 | 247933-30 | 247960-45 | 249758-60 | 249773-75 | 249788-90 | 252009-105 |

Microscopic description: See attached spreadsheet

Microscopic diagnosis: See attached spreadsheet

Comment: Histology – No lesions were recognized in the kidneys. All liver lesions were basically of two types; either a minimal increase in lymphocytes in portal and parenchymal areas and generally a gradation of focal to multifocal lesions consisting of acute necrosis, granulomas and finally mineralization in predominately portal areas. The latter lesions are generally associated with parasites and both tapeworm larvae and cross sections of nematode parasites were seen histologically. Lymphocytic inflammation is generally associated with viral infection. Serologic profiles would possibly help to define the viral disease burden. In summary these tissue changes are similar to those seen in the prior tissue submission by Dr Dammann and would be essentially what one would expect to see in a wild mouse population.

Grade: Normal = 0, Minimal = 1, Mild = 2, Moderate = 3, Moderately Severe = 4, Severe = 5

010046

Gene B. Hubbard, D.V.M., M.S.
ACLAM, ACVP
Veterinary Pathologist

Save: Yes
Share: No
Code: Hepatitis,.liver,e,Dammann

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 96333.38.04x
Case: ER-SOW-464

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 504-0784 | 247880 | 1 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247885 | 2 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | U | NA | NA | NA | NA | | | Spleen only - no liver |
| | 247886 | 3 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247887 | 4 | Liver | U | NA | NA | NA | NA | | | No liver |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT - kidney only |
| | 247888 | 5 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247889 | 6 | Liver | S | 1 | 0 | 0 | 3? | | | Mineralization-probable parasitic granuloma |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247894 | 7 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247895 | 8 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247896 | 9 | Liver | S | 2 | 0 | 0 | 4? | | | Mineralization-probable parasitic granuloma |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | - |
| | 247897 | 10 | Liver | S | 4 | 2 | 0 | 2? | | | Necrosis with granuloma formation |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247898 | 11 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247903 | 12 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247904 | 13 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247905 | 14 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247906 | 15 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

Grade: 0 - Normal, 1 - Within normal limits, 2 - Mild, 3 - No change, 4 - Moderate/severe, 5 - Severe

I - Inflammation, H - Hemorrhage, N - Necrosis, NA - Not applicable, Y/N - Yes/No, ENT - Essentially normal tissue, ? - parasite not seen but assumed cause of lesion

1

010047

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.00x
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S94-0784 | 247907 | 16 | Liver | S | 3 | 1 | 0 | 2? | | | Multifocal granuloma, inflammation & necrosis |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247912 | 17 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247913 | 18 | Liver | S | 1 | 0 | 0 | 1? | | | Mineralization & granuloma - minimal |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247914 | 19 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247915 | 20 | Liver | S | 1 | 0 | 0 | 0 | | | Cholangiohepatitis - lymphocytic |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247916 | 21 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247921 | 22 | Liver | S | 1 | 0 | 0 | 1? | | | Minimal mineralization & granulomas |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247922 | 23 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247923 | 24 | Liver | S | 1 | 0 | 0 | 1? | | | Focal mineralization |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247924 | 25 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247925 | 26 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247930 | 27 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247931 | 28 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247932 | 29 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247933 | 30 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

2

010048

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.00x
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247934 | 31 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247939 | 32 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247940 | 33 | Liver | S | 0 | 0 | 0 | 5 | | | Nematode cross-section & gallbladder |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247941 | 34 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247942 | 35 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247943 | 36 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247948 | 37 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247949 | 38 | Liver | S | 1 | 0 | 0 | 0 | | | Cholangiohepatitis |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247950 | 39 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247951 | 40 | Liver | S | 1 | 1 | 0 | 17 | | | Focal cholangiohepatitis |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247952 | 41 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247958 | 42 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247958 | 43 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247959 | 44 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247960 | 45 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.06x
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 247961 | 46 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247966 | 47 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247967 | 48 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247968 | 49 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247969 | 50 | Liver | S | 2 | 0 | 0 | 0 | | | Lymphocytic cholangitis |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249749 | 51 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249750 | 52 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249751 | 53 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249752 | 54 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249753 | 55 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249754 | 56 | Liver | S | 5 | 2 | 0 | 27 | | | Multiple granulomas & necrosis |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249755 | 57 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249756 | 58 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249757 | 59 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 247958 | 60 | Liver | S | 2 | 0 | 0 | 5 | | | Tapeworm larvae multiple |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |



010050

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.00x
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249759 | 61 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249760 | 62 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249761 | 63 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249762 | 64 | Liver | S | 1 | 0 | 0 | 0 | | | Lymphocytic Inflammation |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249763 | 65 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249764 | 66 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249765 | 67 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249766 | 68 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249767 | 69 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249768 | 70 | Liver | S | 1 | 1 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249769 | 71 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 2497670 | 72 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249771 | 73 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249772 | 74 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249773 | 75 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.00s
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249774 | 76 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249775 | 77 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249776 | 78 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249777 | 79 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249778 | 80 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249779 | 81 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249780 | 82 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249781 | 83 | Liver | S | 2 | 2 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249782 | 84 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249783 | 85 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249784 | 86 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249785 | 87 | Liver | S | 1 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249786 | 88 | Liver | S | 2 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249787 | 89 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249788 | 90 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

PI: Dr. M. Dammann
Client: Bechtel BWXT Idaho LLC

Project: 06355.38.06x
Case: ER-SOW-444

Date: 22 Nov 04

| Accession No. | Tissue ID | Cassette No. | Tissue | Condition of Specimen | Inflammation | Necrosis | Hemorrhage | Parasite | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| S04-0784 | 249789 | 91 | Liver | S | 1 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249790 | 92 | Liver | S | 1 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249791 | 93 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249792 | 94 | Liver | S | 2 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249793 | 95 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249794 | 96 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249795 | 97 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249796 | 98 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249797 | 99 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 249798 | 100 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 252004 | 101 | Liver | S | 2 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 252006 | 102 | Liver | S | 1 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 252007 | 103 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 252008 | 104 | Liver | S | 1 | 0 | 0 | 0 | | | |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |
| | 252009 | 105 | Liver | S | 0 | 0 | 0 | 0 | | | ENT |
| | | | Kidney | S | 0 | 0 | 0 | 0 | | | ENT |

# Appendix I

# Plant Population Data

# Appendix I

# Plant Population Data

Table I-1 Summary of plant cover classes by plot frame.

| Quarter Plots | | | | | Half Plots | | | | | Whole Plots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | | | | | Area | | | | | Area | | | |
| Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA |
| AGCR | | 0.0 | 0.3 | 0.3 | AGCR | | 0.0 | 0.1 | 1.1 | AGCR | | 0.3 | 0.3 | 0.6 |
| ALDE | 0.2 | 3.1 | 0.7 | 0.4 | ALDE | 0.2 | 3.7 | 0.6 | 0.4 | ALDE | 0.4 | 4.2 | 0.8 | 0.7 |
| ALTE | | | 0.3 | 0.4 | ALTE | | | 0.1 | 0.1 | ALTE | | | 0.1 | 0.2 |
| AMBL | | 0.0 | | | AMBL | | 0.0 | | | AMBL | | 0.8 | | |
| ARFR | | 7.0 | 0.3 | 0.5 | ARFR | | 7.1 | 0.4 | 0.8 | ARFR | | 7.3 | 0.6 | 0.9 |
| ARHO | | | 0.1 | | ARHO | | | 0.3 | | ARHO | | | 0.3 | |
| ARLI | 0.0 | | | | ARLI | 0.1 | | | | ARLI | 0.1 | | | |
| ARLU | | | 1.7 | | ARLU | | | 1.5 | | ARLU | | | 1.8 | |
| ARTR | 3.7 | 6.6 | 7.0 | 6.5 | ARTR | 3.3 | 8.0 | 7.2 | 7.0 | ARTR | 5.8 | 9.3 | 9.1 | 8.7 |
| ARTR-D | 7.0 | 8.8 | 6.3 | 7.8 | ARTR-D | 7.7 | 9.2 | 6.2 | 8.2 | ARTR-D | 12.0 | 10.4 | 7.9 | 10.3 |
| ASCA | 0.1 | | 0.1 | 0.1 | ASCA | 0.1 | | 0.1 | 0.1 | ASCA | 0.1 | | 0.1 | 0.1 |
| ASLE | | | | 0.0 | ASLE | | | | 0.0 | ASLE | | | | 0.1 |
| ATCO | | | | 0.7 | ATCO | | | | 0.4 | ATCO | | | | 0.4 |
| ATNU | | 0.2 | | 0.9 | ATNU | | 1.0 | | 1.1 | ATNU | | 1.2 | | 1.1 |
| BAREGROUND | 25.8 | 35.1 | 34.6 | 41.2 | BAREGROUND | 25.9 | 36.2 | 36.4 | 39.2 | BAREGROUND | 29.4 | 39.0 | 35.7 | 38.0 |
| BONE | | 0.0 | | | BONE | | 0.0 | | | BONE | | 0.0 | | |
| BRTE | 1.8 | 0.1 | 1.1 | 1.5 | BRTE | 2.1 | 0.1 | 1.5 | 1.1 | BRTE | 2.5 | 0.2 | 2.0 | 1.2 |
| CABR | | | | 0.0 | CABR | | | | 0.0 | CABR | | | | 0.1 |
| CADO | | 0.1 | 1.2 | 1.4 | CADO | | 0.1 | 1.4 | 1.2 | CADO | | 0.2 | 1.4 | 1.6 |
| CHFR | 0.7 | 0.7 | 0.0 | 0.3 | CHFR | 0.9 | 0.4 | 0.0 | 0.4 | CHFR | 1.4 | 0.7 | 0.1 | 0.7 |

Table I-1. (continued).

| Quarter Plots | | | | | Half Plots | | | | | Whole Plots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | | | | | Area | | | | | Area | | | |
| Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA |
| CHLE | 0.4 | 1.0 | 0.0 | 1.0 | CHLE | 0.4 | 0.9 | 0.1 | 1.0 | CHLE | 0.6 | 1.3 | 0.1 | 1.4 |
| CHNA | 0.3 | | 0.0 | | CHNA | 0.1 | | 0.0 | | CHNA | 0.4 | | 0.2 | |
| CHVI | 2.5 | 2.7 | 3.9 | 2.2 | CHVI | 2.9 | 3.5 | 3.5 | 2.6 | CHVI | 4.3 | 4.4 | 3.8 | 3.4 |
| CHVI-D | | | 1.4 | 1.5 | CHVI-D | | | 2.1 | 2.7 | CHVI-D | | | 2.0 | 3.5 |
| CRAC | 0.4 | | | 0.2 | CRAC | 0.2 | | | 0.1 | CRAC | 0.2 | | | 0.1 |
| CRSC | 0.2 | 1.2 | 0.0 | 0.2 | CRSC | 0.2 | 1.6 | 0.0 | 0.2 | CRSC | 0.3 | 1.9 | 0.1 | 0.5 |
| DEPI | 0.1 | 0.1 | 0.1 | 0.1 | DEPI | 0.1 | 0.1 | 0.1 | 0.1 | DEPI | 0.2 | 0.1 | 0.2 | 0.2 |
| DESERT LICHEN | | | 0.3 | 3.0 | DESERT LICHEN | | | 0.8 | 2.8 | DESERT LICHEN | | | 0.8 | 2.4 |
| DESO | | 0.1 | 0.0 | 0.0 | DESO | | 0.1 | 0.1 | 0.1 | DESO | | 0.1 | 0.3 | 0.1 |
| ELLA | 1.5 | 0.5 | 1.9 | 1.6 | ELLA | 1.9 | 0.7 | 1.7 | 1.8 | ELLA | 2.2 | 0.5 | 1.9 | 2.2 |
| ERCE | 1.5 | | 0.1 | 0.2 | ERCE | 1.6 | | 0.1 | 0.5 | ERCE | 1.7 | | 0.1 | 0.2 |
| ERMI | | 0.1 | 0.0 | 0.0 | ERMI | | 0.1 | 0.1 | 0.0 | ERMI | | 0.4 | 0.2 | 0.0 |
| EROV | | | 0.0 | 0.0 | EROV | | | 0.0 | 0.2 | EROV | | | 0.2 | 0.4 |
| ERPU | 0.3 | | | 0.2 | ERPU | 0.1 | | | 0.7 | ERPU | 0.1 | | | 1.0 |
| ERRE | 1.1 | | | | ERRE | 0.7 | | | | ERRE | 1.4 | | | |
| ERWI | 0.8 | 0.3 | 0.2 | 0.2 | ERWI | 1.0 | 0.3 | 0.3 | 0.3 | ERWI | 1.4 | 0.4 | 0.3 | 0.4 |
| FRAG | | | | 0.3 | FRAG | | | | 0.3 | FRAG | | | | 0.3 |
| GADI | | | 0.4 | 0.8 | GADI | | | 0.7 | 0.5 | GADI | | | 0.4 | 0.6 |
| GARA | | 0.1 | 0.1 | 0.0 | GARA | | 0.1 | 0.1 | 0.0 | GARA | | 0.1 | 0.1 | 0.0 |
| GARA2 | | 0.0 | 0.0 | | GARA2 | | 0.3 | 0.1 | | GARA2 | | 0.3 | 0.1 | |
| GILE | 0.0 | | | 0.0 | GILE | 0.1 | | | 0.1 | GILE | 0.1 | | | 0.1 |
| GRSP | | 0.7 | 7.8 | 1.8 | GRSP | | 0.9 | 6.1 | 1.7 | GRSP | | 0.9 | 6.1 | 1.7 |
| GUSA | 0.3 | | | 0.9 | GUSA | 0.2 | | | 0.7 | GUSA | 0.3 | | | 0.9 |
| GYNU | | 0.3 | 0.1 | | GYNU | | 0.2 | 0.1 | | GYNU | | 0.2 | 0.1 | |
| HAGL | | 1.1 | 0.2 | 0.0 | HAGL | | 0.6 | 0.2 | 0.3 | HAGL | | 0.7 | 0.3 | 0.1 |

Table I-1. (continued).

| Quarter Plots | | | | | Half Plots | | | | | Whole Plots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | | | | | Area | | | | | Area | | | |
| Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA |
| IVAX | | | 0.6 | | IVAX | | | 0.4 | | IVAX | | | 0.5 | |
| KOSC | | 0.0 | 0.1 | | KOSC | | 0.0 | 0.1 | | KOSC | | 0.1 | 0.2 | |
| KRLA | | 0.1 | | 3.3 | KRLA | | 0.1 | | 2.8 | KRLA | | 0.3 | | 2.2 |
| LAOC | 0.3 | 0.0 | 0.3 | 0.3 | LAOC | 0.3 | 0.0 | 0.3 | 0.3 | LAOC | 0.6 | 0.1 | 0.5 | 0.4 |
| LASE | | | | 0.1 | LASE | | | | 0.1 | LASE | | | | 0.1 |
| LASQ | | | 0.1 | 0.1 | LASQ | | | 0.0 | 0.1 | LASQ | | | 0.2 | 0.2 |
| LAVA | 7.6 | | | 1.7 | LAVA | 7.7 | | | 1.8 | LAVA | 7.2 | | | 1.3 |
| LEDE | | | | 0.3 | LEDE | | | | 0.5 | LEDE | | | | 0.6 |
| LEPU | | 0.1 | 0.8 | 2.5 | LEPU | | 0.1 | 0.7 | 2.9 | LEPU | | 0.4 | 0.8 | 3.1 |
| LITTER | 19.5 | 24.2 | 20.1 | 21.1 | LITTER | 21.1 | 22.2 | 18.3 | 20.8 | LITTER | 23.0 | 22.3 | 19.5 | 20.4 |
| LODI | 0.0 | | | | LODI | 0.1 | | | | LODI | 0.1 | | | |
| LOFO | 0.1 | | | 0.1 | LOFO | 0.1 | | | 0.1 | LOFO | 0.1 | | | 0.1 |
| LYDU | 0.1 | | | | LYDU | 0.3 | | | | LYDU | 0.3 | | | |
| LYJU | 0.1 | | | | LYJU | 0.2 | | | | LYJU | 0.7 | | | |
| MACA | | 0.0 | 0.0 | 0.1 | MACA | | 0.0 | 0.0 | 0.1 | MACA | | 0.1 | 0.1 | 0.1 |
| MEAL | 1.5 | 0.1 | 0.4 | 1.4 | MEAL | 1.7 | 0.3 | 0.5 | 1.4 | MEAL | 2.4 | 0.5 | 0.7 | 2.0 |
| METAL | | | | 0.9 | METAL | | | | 0.8 | METAL | | | | 1.0 |
| MOSS | 3.6 | 5.2 | 2.7 | 5.7 | MOSS | 3.7 | 5.7 | 2.6 | 5.3 | MOSS | 4.8 | 6.8 | 3.2 | 6.9 |
| OEAN | 0.0 | | | | OEAN | 0.1 | | | | OEAN | 0.1 | | | |
| OPPO | 0.3 | 0.7 | 0.3 | 0.4 | OPPO | 0.6 | 0.8 | 0.4 | 0.6 | OPPO | 1.0 | 0.9 | 0.4 | 0.8 |
| ORHY | 1.0 | 0.4 | 1.2 | 2.8 | ORHY | 1.0 | 0.8 | 1.3 | 3.0 | ORHY | 0.8 | 0.6 | 1.6 | 4.0 |
| PASM | 0.8 | 0.0 | 1.7 | 0.8 | PASM | 1.6 | 0.1 | 1.4 | 1.0 | PASM | 1.9 | 0.1 | 1.6 | 1.2 |
| PEBBLES | 9.0 | 5.0 | 15.3 | 6.7 | PEBBLES | 8.8 | 4.5 | 15.2 | 6.7 | PEBBLES | 9.5 | 4.7 | 15.7 | 6.6 |
| PHGL | 0.4 | | | | PHGL | 0.2 | | | | PHGL | 0.4 | | | |
| PHHA | 0.3 | | | | PHHA | 0.3 | | | | PHHA | 0.4 | | | |

Table I-1. (continued).

| Quarter Plots | | | | | Half Plots | | | | | Whole Plots | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area | | | | | Area | | | | | Area | | | |
| Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA | Species | 1REF | 2REF | INTEC | MDA |
| PHHO | 2.1 | | 0.8 | 2.7 | PHHO | 1.4 | | 0.7 | 3.4 | PHHO | 0.9 | | 1.0 | 3.9 |
| PHLO | | 2.8 | 0.1 | | PHLO | | 3.3 | 0.1 | | PHLO | | 4.3 | 0.3 | |
| POSE | 1.2 | 2.1 | 2.8 | 0.4 | POSE | 1.3 | 2.0 | 3.1 | 0.6 | POSE | 1.8 | 2.5 | 3.9 | 0.8 |
| PWCO | | | 0.0 | | PWCO | | | 0.0 | | PWCO | | | 0.1 | |
| RAILROAD TIE | | | 0.8 | | RAILROAD TIE | | | 0.3 | | RAILROAD TIE | | | 0.8 | |
| RUVE | 0.1 | | | | RUVE | 0.1 | | | | RUVE | 0.1 | | | |
| SABE | | | 0.3 | | SABE | | | 0.8 | | SABE | | | 0.3 | |
| SAKA | | 0.7 | 1.0 | 1.4 | SAKA | | 0.6 | 0.9 | 1.1 | SAKA | | 0.7 | 1.0 | 1.3 |
| SCLI | 0.3 | 0.8 | 0.3 | 0.5 | SCLI | 0.2 | 1.3 | 0.3 | 0.7 | SCLI | 0.4 | 1.4 | 0.5 | 1.0 |
| SIAL | | 0.0 | 0.1 | 0.1 | SIAL | | 0.0 | 0.3 | 0.2 | SIAL | | 0.0 | 0.3 | 0.2 |
| SIHY | 1.1 | 7.9 | 2.2 | 1.8 | SIHY | 1.7 | 8.1 | 2.3 | 2.2 | SIHY | 2.2 | 9.3 | 3.1 | 3.1 |
| SPMU | | 4.8 | 0.0 | 0.1 | SPMU | | 4.6 | 0.1 | 0.1 | SPMU | | 5.2 | 0.2 | 0.3 |
| STCO | 7.2 | 1.0 | 0.8 | 1.5 | STCO | 8.0 | 0.8 | 0.7 | 1.8 | STCO | 9.1 | 1.1 | 1.2 | 2.2 |
| STSP | | | | 0.0 | STSP | | | | 0.3 | STSP | | | | 0.3 |
| TECA | | | 2.0 | | TECA | | | 2.0 | | TECA | | | 1.3 | |
| TESP | | | 0.0 | 0.3 | TESP | | | 0.0 | 0.4 | TESP | | | 0.8 | 0.7 |
| TRDU | | | | 0.0 | TRDU | | | | 0.0 | TRDU | | | | 0.0 |
| UNK1 | | | 0.0 | 0.0 | UNK1 | | | 0.0 | 0.0 | UNK1 | | | 0.1 | 0.1 |
| UNK2 | 0.0 | | 0.0 | | UNK2 | 0.0 | | 0.0 | | UNK2 | 0.1 | | 0.3 | |
| UNK3 | 0.5 | | | | UNK3 | 0.5 | | | | UNK3 | 0.5 | | | |
| UNKN1 | | 6.9 | 0.0 | 0.0 | UNKN1 | | 8.0 | 0.2 | 0.0 | UNKN1 | | 10.6 | 0.1 | 0.3 |
| UNKN2 | | | 0.0 | 0.1 | UNKN2 | | | 0.1 | 0.1 | UNKN2 | | | 0.1 | 0.1 |
| WOOD | | | 1.1 | | WOOD | | | 1.1 | | WOOD | | | 1.6 | |

Table I-2. Plant codes, common names, and scientific names.

| Code | Common name | Scientific Name |
|---|---|---|
| AGCR | Indian rice grass | *Agropyron cristatum* |
| ALAL | Yellow alyssum | *Alyssum alyssoides* |
| ALDE | Desert madwort | *Alyssum desertorum* |
| ARCA | Silver sagebrush | *Artemisia cana* |
| ARCO | Ballhead sandwort | *Arenaria congesta* |
| ARFR2 | Sandwort | *Arenaria franklinii* |
| ARTR | Wyoming big sagebrush | *Artemisia tridentata* |
| ASFI | Locoweed | *Astragalus filipes* |
| ASLE | Freckled milkvetch | *Astragalus lentiginosus* |
| ATCO | Spiny saltbush | *Atriplex confertifolia* |
| ATFA | Saltsage | *Atriplex falcate* |
| BASA | Arrowleaf balsamroot | *Balsamorhiza sagittata* |
| BRTE | Cheatgrass | *Bromus tectorum* |
| CADO | Douglass' sedge | *Carex douglasii* |
| CHDO | Dusty maiden | *Chaenactis douglasii* |
| CHNA | Grey rabbitbrush | *Chrysothamnus nauseosus* |
| CHVI | Green rabbitbrush | *Chrysothamnus viscidiflorus* |
| CRAC | Hawksbeard | *Crepis acuminata* |
| CRTO | Cryptantha | *Cryptantha torreyana* |
| DEPI | Western tansymustard | *Descurainia pinnata* |
| DESO | Tansymustard | *Descurainia sophia* |
| ELLA | Thickspike wheatgrass | *Elymus lanceolatus* |
| ERAL | Stalked fleabane | *Erigeron algidus* |
| EROV | Cushion buckwheat | *Eriogonum ovalifolium* |
| ERPU | Shaggy fleabane | *Erigeron pumilus* |
| ERSP | Great basin wooly star | *Eriastrum sparsiflorum* |
| GRSP (ATSP) | Spiny hopsage | *Grayia spinosa* |
| GUSA | Broom snakeweed | *Gutierrezia sarothrae* |
| ERRE | Stemless mock goldenweed | *Ericameria resinosa* |
| HAGL | Halogeton | *Halogeton glomeratus* |
| HOJU | Foxtail barley | *Hordeum jubatum* |
| IPCO | Ball-head gilia | *Ipomopsis congesta* |
| IVAX | Poverty weed | *Iva axillaris* |

Table I-2. (continued).

| Code | Common name | Scientific Name |
|---|---|---|
| KOSC | Kochia | *Kochia scoparia* |
| KRLA | Winterfat | *Eurotia lanata* |
| LASQ | Stick-tights | *Lappula squarrosa* |
| LEPE | Clasping peppergrass | *Lepidium perfoliatum* |
| LEPU | Prickly phlox | *Leptodactylon pungens* |
| LUHO2 | Silvery lupine | *Lupinus holosericeus* |
| LUWY | Wyeth's lupine | *Lupinus wyethii* |
| LYSP | Spiny skeletonweed | *Lygodesmia spinosa* |
| MACA | Hoary aster | *Machaeranthera canescens* |
| MECA | Idaho bluebells | *Mertensia campanulata* |
| MESA | Alfalfa | *Medicago sativa* |
| OPPO | Prickly pear cactus | *Opuntia polycantha* |
| ORHY | Indian ricegrass | *Oryzopsis hymenoides* |
| PASM | Western wheatgrass | *Pascopyrum smithii* |
| PHHO | Hood's phlox | *Phlox hoodii* |
| PHLO | Longleaf phlox | *Phlox longifolia* |
| POSE | Sandberg bluegrass | *Poa secunda* |
| PSSP | Bluebunch wheatgrass | *Pseudoroegneria spicata* |
| RUOC | Western dock | *Rumex occidentalis* |
| SAKA | Russian thistle | *Salsola kali* |
| SCLI | Plains mustard | *Schoenocrambe linifolia* |
| SELA | Spearleaf stonecrop | *Sedum lanceolatum* |
| SIAL | Tumble mustard | *Sisymbrium altissimum* |
| SIHY (ELEL) | Squirrel tail grass | *Elymus elymoides* |
| SPMU | Globemallow | *Sphaeralcea munroana* |
| STCO | Needle and thread grass | *Stipa comata* |
| STSP | Thorn skeletonweed | *Stephanomeria spinosa* |
| STVI | Green princesplume | *Stanleya viridiflora* |
| TECA | Grey horsebrush | *Tetradymia canescens* |
| TESP | Spiny horsebrush | *Tetradymia spinosa* |
| TRDU | Yellow salsify | *Tragopogon dubius* |