



**TETRA TECH, INC.**

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Mountlake Terrace, Washington 98043  
Telephone (425) 776-3761  
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April 29, 2004

Mr. Timothy Lignoul  
Van Etten, Suzumoto, and Beckett, LLP  
1620 26<sup>th</sup> Street, Suite 6000 North  
Santa Monica, California 90404

**Subject: Limited Phase II Soil Sampling Report  
WA2 HORSELK Property  
Wenatchee, Chelan County, Washington**

Dear Mr. Lignoul:

In April 2004, Tetra Tech personnel performed limited Phase II soil sampling at the WA2 HORSELK property, located at 290 Penny Road, in Wenatchee, Chelan County, Washington (see Figure 1; Attachment A). This Phase II investigation included the sampling of surface and shallow subsurface soils at the location of the proposed cellular monopole, proposed equipment shelter, and underground utility trench area. This letter report discusses the results of the above-mentioned activities and provides conclusions and recommendations for further action.

#### **SITE INVESTIGATION ACTIVITIES AND RESULTS**

On April 13, 2004, Tetra Tech conducted Phase II soil sampling activities pertaining to the proposed activities of Verizon Wireless at the subject property. Three discrete soil samples (Horse Lake #4, Horse Lake #5, and Horse Lake #6) were collected every 100-feet along the proposed 300-foot underground utility trench area. Each sample consisted of soil collected from the ground surface to 1-foot below ground surface (bgs). One discrete soil sample (Horse Lake #1) was collected from the ground surface to 1-foot bgs at the proposed location of the equipment shelter. At the proposed monopole location, one discrete soil sample (Horse Lake #2) was collected from the ground surface to 1-foot bgs, and one discrete soil sample (Horse Lake #3) was collected from 3-feet bgs. Groundwater was not encountered during the Phase II soil sampling activities. Please see Figure 2 in Attachment A that illustrates the locations of soil samples collected as part of this investigation.

All samples submitted as part of this investigation were delivered to OnSite Environmental, Inc. of Redmond, Washington to be analyzed for the presence of organochlorine pesticides, and the metals arsenic, lead, and mercury.

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Table 1 provided in Attachment B, provides the results of the constituents detected in the soil samples. Results of the soil samples submitted as part of this investigation revealed that the organochlorine pesticides identified as 4,4'-DDE and 4,4'-DDT were the only constituents detected above their respective practical quantitation limits (PQL) in a select number of samples. Additionally, the metals arsenic and lead were detected above their respective PQL in all six soil samples analyzed. Mercury was not detected in any of the six soil samples analyzed as part of this investigation. The soil sample results for the detected constituents have been compared to the applicable Washington State Department of Ecology Model Toxics Control Act (MTCA) Soil Cleanup Levels. None of the organochlorine pesticide constituents were detected above their respective Soil Cleanup Level in any of the soil samples analyzed as part of this investigation. However, the metal arsenic was detected above its Soil Cleanup Level in all but one sample, and the metal lead was detectable above its Soil Cleanup level in two of the six soil samples analyzed. A copy of the laboratory analytical report is provided in Attachment C.

A comparison of metal concentrations detected in the analytical samples and background metal concentrations for arsenic and lead found in the state were performed. There are no published background levels for metals for the Wenatchee area. Published metals background data is provided in the Washington State Department of Ecology document entitled *Natural Background Soil Metals Concentrations in Washington State, 1994*. Natural soil background levels for arsenic and lead found in the state wide survey are 7 mg/kg and 17 mg/kg, respectively. Results for these metals in the samples analyzed as part of this investigation revealed that all concentrations of arsenic are above the natural soil background level, and all but two samples (Horse Lake #1 and Horse Lake #3) were detected above the natural soil background level for lead.

## CONCLUSIONS AND RECOMMENDATIONS

Tetra Tech, Inc. has conducted limited soil sampling within the proposed Verizon Wireless lease area at the subject property. Review of the results indicates that the metal lead is at concentrations exceeding MTCA in the surface soil only at several locations. Surface soil sample Horse Lake #2 revealed a lead concentration of 710 mg/kg, and the soil sample collected at 3-feet bgs from this boring (Horse Lake #3) revealed a lead concentration of 10 mg/kg, well below the MTCA soil cleanup level. Additionally, review of the sample data for arsenic revealed all but one surface soil concentration were found to exceed MTCA. The surface soil sample collected at the monopole (Horse Lake #2) revealed an arsenic concentration of 95 mg/kg, and a significant decrease of arsenic concentration of 47 mg/kg in the sample collected at 3-feet bgs (Horse Lake #3).

Based on the results of the samples collected as part of this investigation, the metals arsenic and lead are present in the soil at concentrations that represent a risk to human health. Special handling and disposal requirements will be necessary for the soil generated on the site. The soil generated during construction activities should be contained and transported for proper disposal by a licensed waste handler to a landfill permitted to accept such waste. These types of soil can be disposed of at the local Wenatchee Regional Landfill.

Based on the identification of arsenic and lead above MTCA cleanup levels, regulatory reporting will be required. If Verizon Wireless currently leases the property, they would be considered a site "operator" and would be required to report the release within 90-days. If Verizon Wireless does not currently lease the property, they should provide the landowner with the results of this investigation and inform them that they must notify Ecology of the release within 90-days.

Based on the concentrations of arsenic and lead detected above MTCA cleanup levels in the soil, Tetra Tech recommends that a Workers Health and Safety Plan (HASP) be developed prior to construction activities at the site. The HASP should address all environmental and basic physical hazards associated

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with the site including a chemical and physical hazard evaluation, a discussion of appropriate personnel protective equipment, decontamination and site control procedures, and emergency contact information.

Tetra Tech appreciates the opportunity to have worked with you on this project and we look forward to working with you in the future. If you have any questions or require additional information please feel free to call me directly at (425) 673-3671.

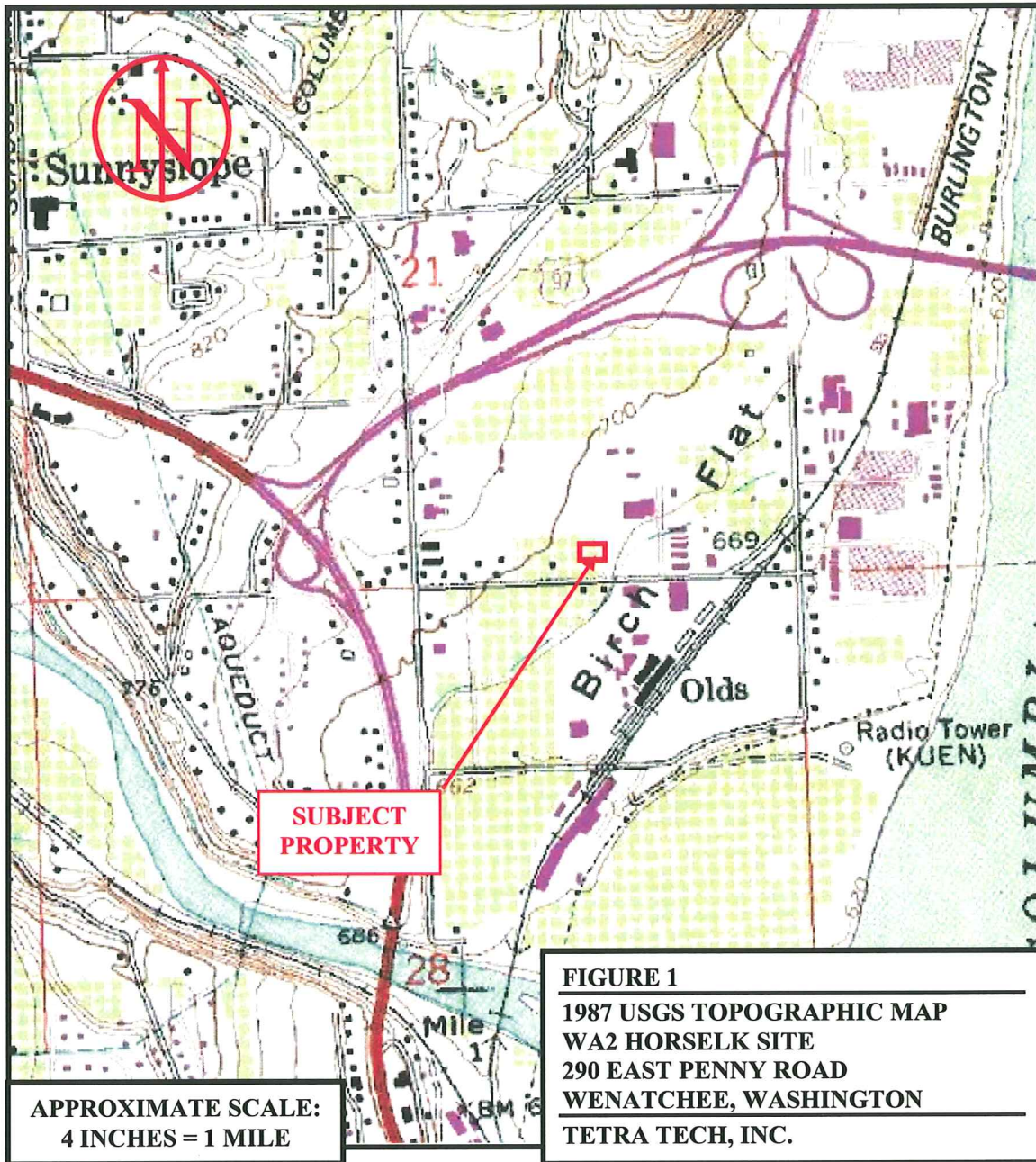
Sincerely,

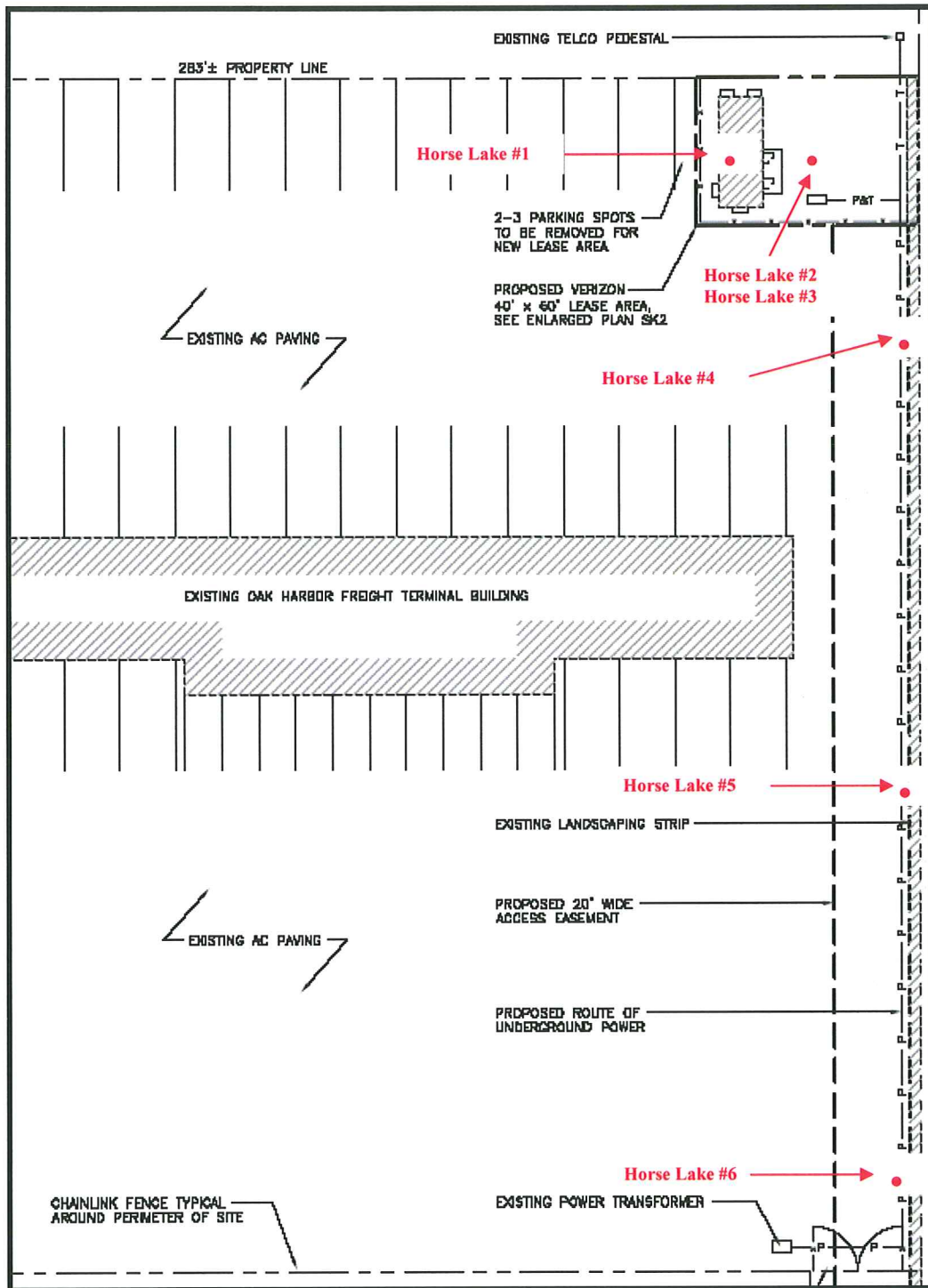
Paul Bean  
Northwest Region Project Manager

Attachments

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**ATTACHMENT A**  
**FIGURES**





**SAMPLE LOCATION MAP**  
**VERIZON WIRELESS**  
**WA2 HORSE LAKE PROPERTY**  
**WENATCHEE, WASHINGTON**  
**TETRA TECH, INC.**

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**ATTACHMENT B**

**TABLE 1. SUMMARY OF SAMPLE RESULTS**

TABLE 1. SOIL SAMPLE ANALYTICAL RESULTS  
 WA2 HORSELK, WENATCHEE, WASHINGTON  
 APRIL, 2004

Analyte	Practical Quantitation Limit (mg/kg) <sup>b</sup>	Applicable MTCA Soil Cleanup Level (mg/kg) <sup>a</sup>	Sample Identification/Analytical Results (mg/kg)						
			Horse Lake #1	Horse Lake #2	Horse Lake #3	Horse Lake #4	Horse Lake #5	Horse Lake #6	
Organochlorine Pesticides <sup>b</sup>									
4,4'-DDE	0.011 - 0.110	2.94	ND	1.8	0.028	0.37	0.043	0.087	
4,4'-DDT	0.011	3	ND	0.34	ND	0.04	ND	ND	
Metals <sup>c</sup>									
Arsenic	11	20	14	95	47	72	25	29	
Lead	5.4 - 5.7	250	15	710	10	290	46	79	
Mercury	0.27 - 0.28	20	ND	ND	ND	ND	ND	ND	

<sup>a</sup> - Washington State Department of Ecology Model Toxics Control Act Cleanup Regulation, Washington Administrative Code Chapter 173-340, Method A and Method B

<sup>b</sup> - Organochlorine pesticides by EPA Method 8081A.

<sup>c</sup> - Metals by EPA Method 6010B/7471A.

ND = Not detected above the Practical Quantitation Limit.

**ND** represents an exceedence of a soil cleanup level.

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**ATTACHMENT C**  
**ANALYTICAL LABORATORY RESULTS**



14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

April 28, 2004

Paul Bean  
Tetra Tech, Inc.  
6100 219<sup>th</sup> Street S.W., Suite 550  
Mountlake Terrace, WA 98043

Re: Analytical Data for Project TM 1435  
Laboratory Reference No. 0404-071

Dear Paul:

Enclosed are the analytical results and associated quality control data for samples submitted on April 15, 2004.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

### Case Narrative

Samples were collected on April 13, 2004 and received by the laboratory on April 15, 2004. They were maintained at the laboratory at a temperature of 2°C to 6°C.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

#### Organochlorine Pesticides by EPA 8081A Analysis

The percent difference values for the following analytes were greater than the quality control limit of -15% (high bias) on both columns in the following continuing calibration verification standards (CCV's):

PEST MID LEVEL 0416-2: Endrin.  
PEST MID LEVEL 0419-2: Endrin.

Due to matrix effects, the percent difference values for the following analytes were greater than the quality control limit of +15% (low bias) on both columns in the following continuing calibration verification standards (CCV's):

PEST LOWLEVEL 0416-2: 4,4'-DDT, and Endrin Aldehyde.

Since the degradation of the CCV standards was reproducible after re-injecting the sample extracts, the CCV degradation problem was attributed to the matrix of these samples. Since the average was less than 15% D for all analytes on both columns, no further action required.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04

Date Analyzed: 4-17-04

Matrix: Soil

Units: ug/kg (ppb)

Lab ID: 04-071-01

Client ID: Horse Lake #1

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.5	
gamma-BHC	ND	5.5	
Heptachlor	ND	5.5	
Aldrin	ND	5.5	
beta-BHC	ND	5.5	
delta-BHC	ND	5.5	
Heptachlor epoxide	ND	5.5	
Endosulfan I	ND	5.5	
4,4'-DDE	ND	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	ND	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	55	

Surrogate	Percent Recovery	Control Limits
TCMX	84	34 - 109
DCB	87	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04  
 Date Analyzed: 4-19-04

Matrix: Soil  
 Units: ug/kg (ppb)

Lab ID: 04-071-02  
 Client ID: Horse Lake #2

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.7	
gamma-BHC	ND	5.7	
Heptachlor	ND	5.7	
Aldrin	ND	5.7	
beta-BHC	ND	5.7	
delta-BHC	ND	5.7	
Heptachlor epoxide	ND	5.7	
Endosulfan I	ND	5.7	
4,4'-DDE	1800	110	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	340	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	57	

Surrogate	Percent Recovery	Control Limits
TCMX	90	34 - 109
DCB	99	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04  
 Date Analyzed: 4-19-04

Matrix: Soil  
 Units: ug/kg (ppb)

Lab ID: 04-071-03  
 Client ID: Horse Lake #3

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.4	
gamma-BHC	ND	5.4	
Heptachlor	ND	5.4	
Aldrin	ND	5.4	
beta-BHC	ND	5.4	
delta-BHC	ND	5.4	
Heptachlor epoxide	ND	5.4	
Endosulfan I	ND	5.4	
4,4'-DDE	28	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	ND	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	54	

Surrogate	Percent Recovery	Control Limits
TCMX	90	34 - 109
DCB	97	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04  
 Date Analyzed: 4-19-04

Matrix: Soil  
 Units: ug/kg (ppb)

Lab ID: 04-071-04  
 Client ID: Horse Lake #4

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.5	
gamma-BHC	ND	5.5	
Heptachlor	ND	5.5	
Aldrin	ND	5.5	
beta-BHC	ND	5.5	
delta-BHC	ND	5.5	
Heptachlor epoxide	ND	5.5	
Endosulfan I	ND	5.5	
4,4'-DDE	370	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	40	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	55	

Surrogate	Percent Recovery	Control Limits
TCMX	81	34 - 109
DCB	87	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04

Date Analyzed: 4-17-04

Matrix: Soil

Units: ug/kg (ppb)

Lab ID: 04-071-05

Client ID: Horse Lake #5

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.4	
gamma-BHC	ND	5.4	
Heptachlor	ND	5.4	
Aldrin	ND	5.4	
beta-BHC	ND	5.4	
delta-BHC	ND	5.4	
Heptachlor epoxide	ND	5.4	
Endosulfan I	ND	5.4	
4,4'-DDE	43	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	ND	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	54	

Surrogate	Percent Recovery	Control Limits
TCMX	79	34 - 109
DCB	75	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Date Extracted: 4-16-04  
 Date Analyzed: 4-17-04

Matrix: Soil  
 Units: ug/kg (ppb)

Lab ID: 04-071-06  
 Client ID: Horse Lake #6

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.6	
gamma-BHC	ND	5.6	
Heptachlor	ND	5.6	
Aldrin	ND	5.6	
beta-BHC	ND	5.6	
delta-BHC	ND	5.6	
Heptachlor epoxide	ND	5.6	
Endosulfan I	ND	5.6	
4,4'-DDE	87	11	
Dieldrin	ND	11	
Endrin	ND	11	
Endosulfan II	ND	11	
4,4'-DDD	ND	11	
4,4'-DDT	ND	11	
Endrin Aldehyde	ND	11	
Endosulfan Sulfate	ND	11	
Methoxychlor	ND	11	
Endrin ketone	ND	11	
Toxaphene	ND	110	
Chlordane (Technical)	ND	56	

Surrogate	Percent Recovery	Control Limits
TCMX	76	34 - 109
DCB	80	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A  
 METHOD BLANK QUALITY CONTROL**

Date Extracted: 4-16-04  
 Date Analyzed: 4-16-04  
  
 Matrix: Soil  
 Units: ug/kg (ppb)  
  
 Lab ID: MB0416S1

Analyte	Result	PQL	Flags
alpha-BHC	ND	5.0	
gamma-BHC	ND	5.0	
Heptachlor	ND	5.0	
Aldrin	ND	5.0	
beta-BHC	ND	5.0	
delta-BHC	ND	5.0	
Heptachlor epoxide	ND	5.0	
Endosulfan I	ND	5.0	
4,4'-DDE	ND	10	
Dieldrin	ND	10	
Endrin	ND	10	
Endosulfan II	ND	10	
4,4'-DDD	ND	10	
4,4'-DDT	ND	10	
Endrin Aldehyde	ND	10	
Endosulfan Sulfate	ND	10	
Methoxychlor	ND	10	
Endrin ketone	ND	10	
Toxaphene	ND	100	
Chlordane (Technical)	ND	50	

Surrogate	Percent Recovery	Control Limits
TCMX	93	34 - 109
DCB	109	30 - 115

Date of Report: April 28, 2004  
 Samples Submitted: April 15, 2004  
 Laboratory Reference: 0404-071  
 Project: TM 1435

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A  
 MS/MSD QUALITY CONTROL**

Date Extracted: 4-16-04  
 Date Analyzed: 4-17-04

Matrix: Soil  
 Units: ug/kg (ppb)

Lab ID: 04-071-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
gamma-BHC	50	39.9	80	39.4	79	1	
Heptachlor	50	42.5	85	42.7	85	0	
Aldrin	50	42.3	85	42.1	84	0	
Dieldrin	125	105	84	105	84	0	
Endrin	125	121	97	120	96	1	
4,4'-DDT	125	98.0	78	99.6	80	2	

Surrogate	Percent Recovery	Percent Recovery	Control Limits
TCMX	87	85	34 - 109
DCB	92	89	30 - 115

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 04-071-01  
Client ID: Horse Lake #1

Analyte	Method	Result	PQL
Arsenic	6010B	14	11
Lead	6010B	15	5.5
Mercury	7471A	ND	0.27

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 04-071-02  
Client ID: Horse Lake #2

Analyte	Method	Result	PQL
Arsenic	6010B	<b>95</b>	11
Lead	6010B	<b>710</b>	5.7
Mercury	7471A	<b>ND</b>	0.28

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 04-071-03  
Client ID: Horse Lake #3

Analyte	Method	Result	PQL
Arsenic	6010B	47	11
Lead	6010B	10	5.4
Mercury	7471A	ND	0.27

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A**

Date Extracted: 4-19-04

Date Analyzed: 4-20-04

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-071-04

Client ID: Horse Lake #4

Analyte	Method	Result	PQL
Arsenic	6010B	72	11
Lead	6010B	290	5.5
Mercury	7471A	ND	0.27

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 04-071-05  
Client ID: Horse Lake #5

Analyte	Method	Result	PQL
Arsenic	6010B	<b>25</b>	11
Lead	6010B	<b>46</b>	5.4
Mercury	7471A	<b>ND</b>	0.27

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS**  
**EPA 6010B/7471A**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 04-071-06  
Client ID: Horse Lake #6

Analyte	Method	Result	PQL
Arsenic	6010B	29	11
Lead	6010B	79	5.6
Mercury	7471A	ND	0.28

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04  
  
Matrix: Soil  
Units: mg/kg (ppm)  
  
Lab ID: MB0419S1&MB0419S2

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10
Lead	6010B	ND	5.0
Mercury	7471A	ND	0.25

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A  
DUPLICATE QUALITY CONTROL**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04  
  
Matrix: Soil  
Units: mg/kg (ppm)  
  
Lab ID: 04-071-04

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	65.6	64.1	2	10	
Lead	265	266	1	5.0	
Mercury	ND	ND	NA	0.25	

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**TOTAL METALS  
EPA 6010B/7471A  
MS/MSD QUALITY CONTROL**

Date Extracted: 4-19-04  
Date Analyzed: 4-20-04  
  
Matrix: Soil  
Units: mg/kg (ppm)  
  
Lab ID: 04-071-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	<b>163</b>	97	<b>161</b>	95	1	
Lead	250	<b>456</b>	77	<b>474</b>	84	4	
Mercury	1.0	<b>1.03</b>	103	<b>1.04</b>	104	1	

Date of Report: April 28, 2004  
Samples Submitted: April 15, 2004  
Laboratory Reference: 0404-071  
Project: TM 1435

**% MOISTURE**

Date Analyzed: 4-16-04

Client ID	Lab ID	% Moisture
Horse Lake #1	04-071-01	9
Horse Lake #2	04-071-02	12
Horse Lake #3	04-071-03	8
Horse Lake #4	04-071-04	9
Horse Lake #5	04-071-05	8
Horse Lake #6	04-071-06	10



#### Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
  - B - The analyte indicated was also found in the blank sample.
  - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
  - E - The value reported exceeds the quantitation range and is an estimate.
  - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
  - G - Insufficient sample quantity for duplicate analysis.
  - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
  - I - Compound recovery is outside of the control limits.
  - J - The value reported was below the practical quantitation limit. The value is an estimate.
  - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
  - L - The RPD is outside of the control limits.
  - M - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
  - O - Hydrocarbons outside the defined gasoline range are present in the sample.
  - P - The RPD of the detected concentrations between the two columns is greater than 40.
  - Q - Surrogate recovery is outside of the control limits.
  - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
  - T - The sample chromatogram is not similar to a typical \_\_\_\_\_.
  - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
  - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
  - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
  - X - Sample extract treated with a silica gel cleanup procedure.
  - Y - Sample extract treated with an acid cleanup procedure.
  - Z -
- ND - Not Detected at PQL  
PQL - Practical Quantitation Limit  
RPD - Relative Percent Difference

