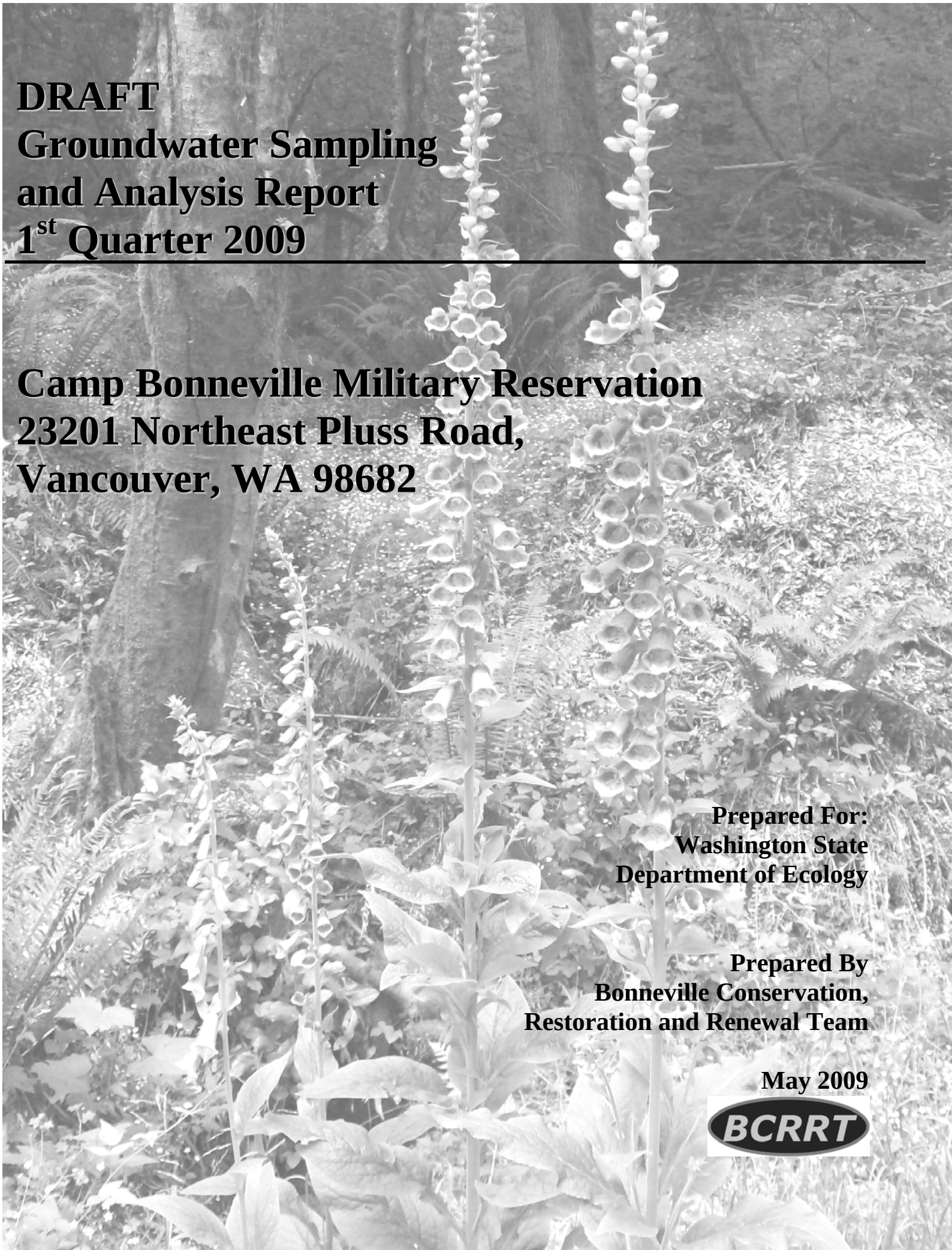


DRAFT
Groundwater Sampling and Analysis Report 1st Quarter 2009

Camp Bonneville Military Reservation
23201 Northeast Pluss Road, Vancouver, WA 98682

Prepared For:
Washington State Department of Ecology

Prepared By
Bonneville Conservation, Restoration and Renewal Team

May 2009

BCRRT

Michael Baker Jr., Inc.
A Unit of Michael Baker Corporation

5261 Fountain Drive
Suite A
Crown Point, IN 46307

219-736-0263
FAX 219-755-0233

Engineering & Energy

May 8, 2009

Mr. Mike Gage
Bonneville Conservation Restoration and Renewal Team, LLC (BCRRT)
Camp Bonneville
23201 NE Pluss Road
Vancouver, WA 98682

SUBJECT: Draft Groundwater Sampling and Analysis Report – 4th Quarter, 2008 for the former Camp Bonneville Military Reserve located in Vancouver Washington

Dear Mr. Gage:

This letter and its attachments constitute the Draft Groundwater Sampling and Analysis Report – 1st Quarter, 2009 for submittal to the Washington Department of Ecology (WDOE). The Electronic Data Deliverable (EDD) was uploaded to the Camp Bonneville website for access by WDOE. Attached to this letter are:

1) Figures 1, 2, 6 and 7
2) Groundwater Data Graphics,
3) Draft Groundwater Sampling and Analysis Report – 1st Quarter, 2009 by PBS Engineering and Environmental (PBS), and
4) Electronic copies of the submittal on CD.

Following your review, please forward two copies of the entire submittal to:

Mr. Ben Amoah-Forson, Ph.D., P.E.
Washington State Department of Ecology
Toxics Cleanup Program
PO Box 47600
300 Desmond Drive
Olympia, Washington 98504

Groundwater Sampling Modifications

Baker implemented the approved modification to the groundwater sampling parameters per the March 18, 2009 from WDOE to BCRRT. This change involved a reduction in analyses for the Boundary Area/Sentinel and Landfill 4/Demolition Area 1 to the following:

- VOCs by USEPA Method 8260B,
- Explosives including picric acid, nitroglycerin and PETN by USEPA Method 8330,
- Perchlorate by USEPA Method 314.1, and
- Field Measurements of temperature, specific conductivity, dissolved oxygen, pH, oxidation reduction potential and water levels.

In addition, Boundary Area/Sentinel wells will be sampled once per year for priority pollutant metals, semi-volatile organic compounds, polynuclear aromatic compounds, and pH (scheduled for the 4th quarter event).

Recent Groundwater Sampling Results at Boundary Area/Sentinel Wells

- With the use of dedicated pumps and low flow purging/sampling techniques (which obtain water samples with lower turbidity), the total and dissolved metals concentrations have decreased significantly. All of the total and dissolved metals detections in groundwater from these wells were below MTCA Method A and B regulatory screening levels.

- Petroleum hydrocarbons have not been detected in any of the Boundary Area/Sentinel Wells throughout the monitoring, except for an isolated detection of diesel range petroleum hydrocarbons in LCMW02DW at 0.15 mg/L in January 2006.

- Perchlorate or Explosive constituents have not been detected above the laboratory detection limits at the Boundary Area/Sentinel Wells. One sample (LCMW04S) had an elevated reporting limit of 10 parts per billion (µg/L). The field duplicate sample (LCMW460W - collected at the time from the same monitoring well) was non-detect with a laboratory detection limit of 1 µg/L.

  Third party validation was performed on the laboratory data package and it was determined that the sample contained an elevated reporting limit due to instrument blank contamination and carryover, therefore, the LCMW04S value was determined to be non-detect and no further action is planned.

Recent Groundwater Sampling Results at Landfill 4/Demolition Area 1 Wells

The effects of the significant precipitation just prior to/during the 4th Quarter 2008 appear to have dissipated and the concentrations/groundwater levels have returned to previous ranges:

- HMX and RDX concentrations in groundwater have been relatively stable in both concentration and distribution throughout all of the 26 LF4/DA1 groundwater sampling events (2001 to 2009).

- Well LF4-MW-1A – perchlorate concentration (6 µg/L) has returned to previous levels (ranging from 1.6 to 17 µg/L) from the 36 µg/L result in the 4th Quarter 2008 heavy precipitation event.

- Well LF4-MW-1B – the very low perchlorate concentrations reported for this well have been less that the 1 µg/L detection limit until this quarters 1.2 µg/L result. Since this well is located upgradient of the LF4/DA1 and the shallow well LF-MW-1A has an established history of low perchlorate concentrations, neither the detection nor absence of perchlorate at this well effects the monitoring program.

- Well LF4-MW-2A – perchlorate concentrations appear to have reached a degree of equilibrium during the last quarterly sampling events (2006 to 2009) with perchlorate concentration/groundwater level patterns that are almost identical. The seasonal variation appears to be inversely correlated with increased precipitation/groundwater elevations:

  - The lowest perchlorate concentrations/highest groundwater level occur in the 1st quarter events (~140 to 150 µg/L, ~ 495 mean sea level [MSL]), < 5 inches of precipitation, versus,

- The highest perchlorate concentrations/lowest groundwater level occur in the 3rd quarter events (~240 to 280 µg/L, ~ 490 MSL, and > 20 inches of precipitation).

The perchlorate concentration has begun its seasonal decrease during this sampling event and the overall 2008/2009 trend is slightly decreasing.

- L4MW2B perchlorate levels follow a quasi-seasonal pattern with a very slight decreasing trend from a peak concentration (530 µg/L, 3rd Quarter 2006) when the longer lag time for seasonal effects are taken into consideration. The 1st Quarter 2009 results show the beginning of the downward portion of this pattern and the overall 2008/2009 trend is slightly decreasing.

  The perchlorate concentration patterns observed in LF-MW-2A are not repeated in the LF-MW-2B data. There has been little historical connection between perchlorate concentrations and precipitation/groundwater elevations at this well.

  LF4-MW-2B concentrations of 1,1-Dichloroethene and 1,1- Dichloroethane have been relatively stable, Tetrachloroethene results are just above the detection level, and the concentrations of Dichlorodifluoromethane and 1,1,1-Trichloroethane have been steadily decreasing. Measured concentrations were below MTCA Method A or B regulatory screening levels. Low levels of 1,2-Dichloroethane (1.58 µg/L) were also detected below MTCA Screening levels.

- Well LF4-MW-3A - perchlorate concentrations have remained relatively stable with an overall decreasing trend from a peak concentration of 120 µg/L during the 4th quarter 2006 sampling event.

- Well LF4-MW-3B - perchlorate concentrations have remained relatively stable with an overall decreasing trend from a peak concentration (55 µg/L) observed in the 4th quarter 2006 sampling event.

- Well LF4-MW-4A - perchlorate concentrations have remained relatively stable (29 to 34 µg/L) from a peak concentration (40 µg/L) observed in the 4th quarter 2006 and 2nd quarter 2007 sampling events.

- Well LF4-MW-5A - perchlorate concentrations have been generally stable after decreasing from a peak of 64 µg/L in the initial sampling event in the 4th quarter 2001to less than 42 µg/L during the last 8 quarters. The trace detections of Tetrachloroethene have been generally stable at <1 µg/L; below MTCA Method A or B regulatory screening levels.

- Well LF4-MW-7B - perchlorate concentrations have been generally stable at 2 to 4 µg/L for the last 22 quarterly sampling events (with the exception of an apparent field cross contamination issue during the 1st quarter 2006 event/field staff were retrained to address this issue).

- Well LF4-MW-17 – the 2nd Quarter 2008 estimated (above the MDL but below the MRL) concentrations of 1,2,4-Trimethylbenzene and Naphthalene (0.12 and 0.35 µg/L, respectively) have not been detected in subsequent event.

- Well LF4-MW-17 and 18 – the monitoring wells located at the beginning of the Central Valley Floor were non-detectable for perchlorate throughout the 20 sampling events

The LF4/DA1 and Boundary Area/Sentinel Wells analytical detections continue to follow the patterns and concentrations that have been observed throughout the sampling events conducted for BCRRT.

If you have any questions, please contact me at (219) 736-0263.

Very truly yours,

MICHAEL BAKER JR., INC.

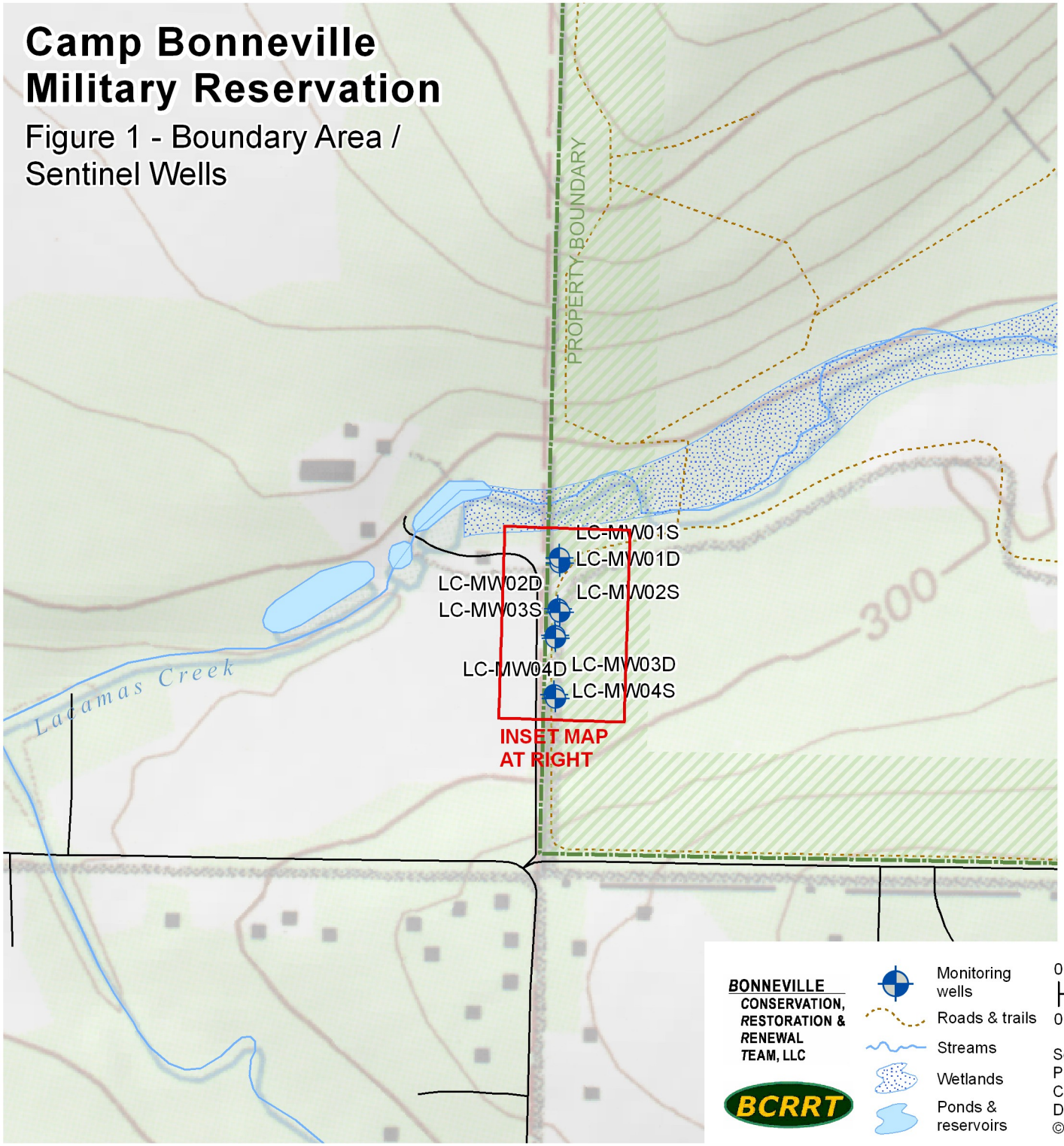
James D. Peyton
Senior Geologist

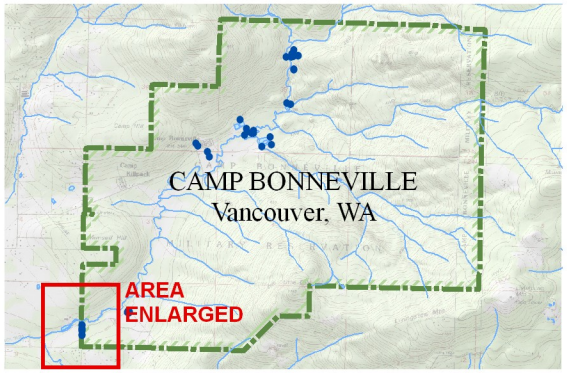
Mark J. Knight, CHMM
Project Manager

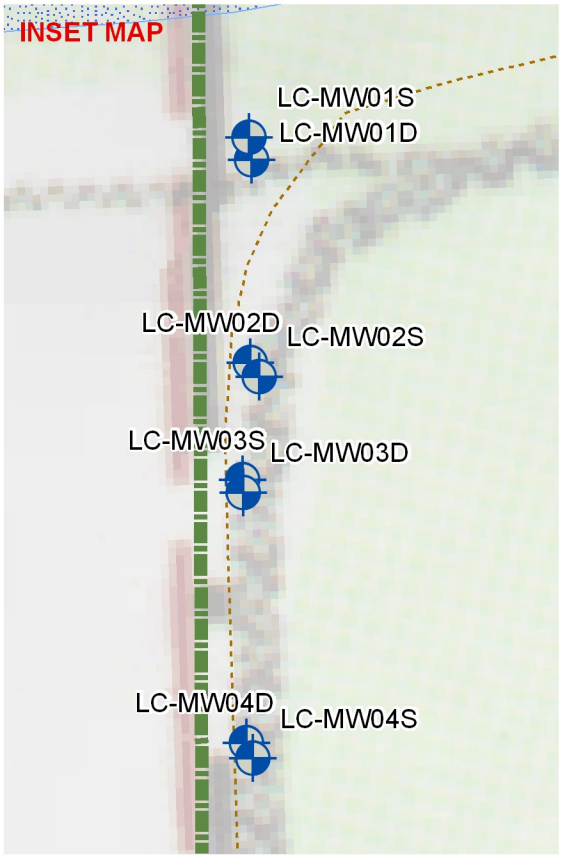
MJK/JDP/amt
Attachments

Camp Bonneville Military Reservation

Figure 1 - Boundary Area / Sentinel Wells







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BCRRT

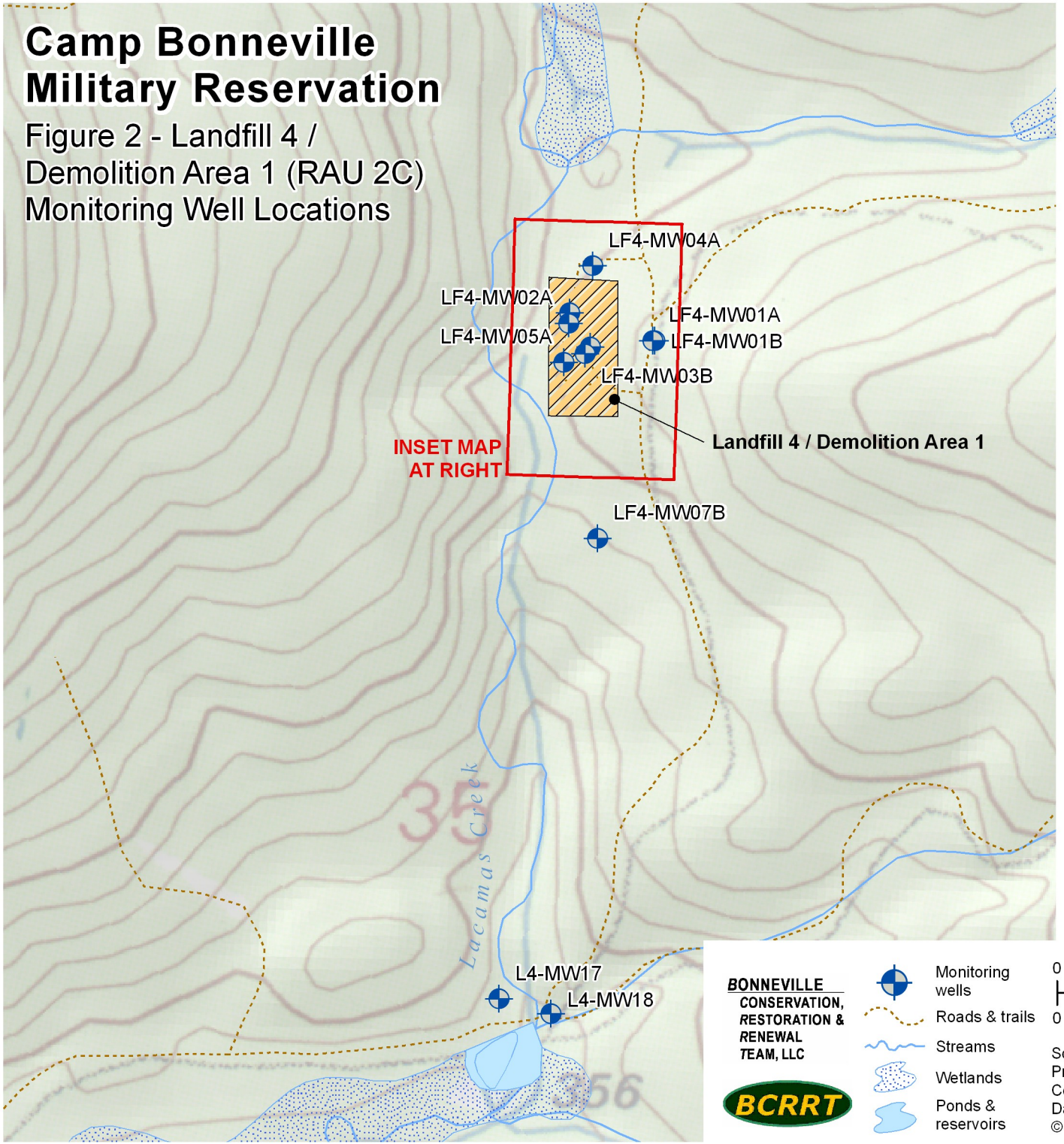
Monitoring wells
Roads & trails
Streams
Wetlands
Ponds & reservoirs

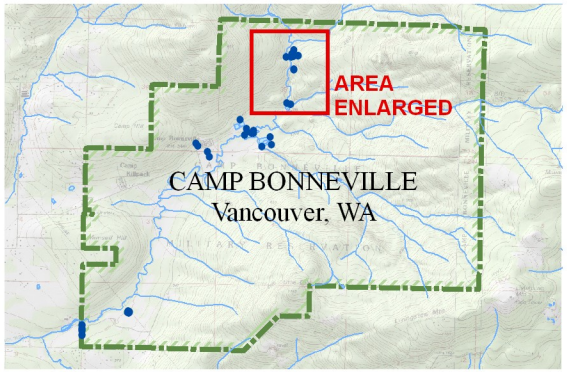
0 200 400 600 800 1,000 ft
0 100 200 m

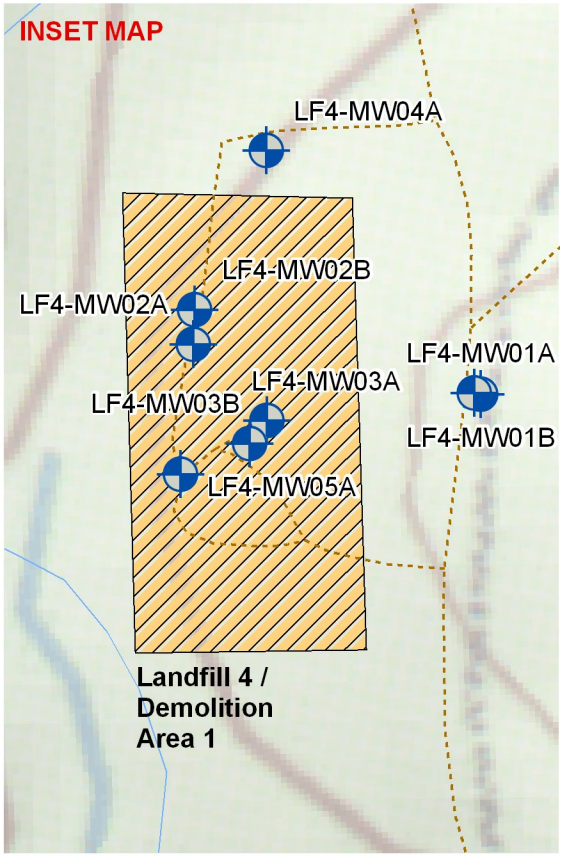
Scale - 1:5,000
Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers

Camp Bonneville Military Reservation

Figure 2 - Landfill 4 / Demolition Area 1 (RAU 2C) Monitoring Well Locations







BONNEVILLE CONSERVATION, RESTORATION & RENEWAL TEAM, LLC

BCRRT

Monitoring wells
Roads & trails
Streams
Wetlands
Ponds & reservoirs

0 200 400 600 800 1,000 ft
0 100 200 m

Scale - 1:5,000
Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers


Camp Bonneville
Military Reservation
Figure 6
Landfill 4/Demolition Area 1
Shallow Groundwater Contours
MW-4A
483.91
MW-5A
492.71
MW-3A
485.20
MW-5A
486.69
MW-1A
514.76
490
490
490
490
490
500
510
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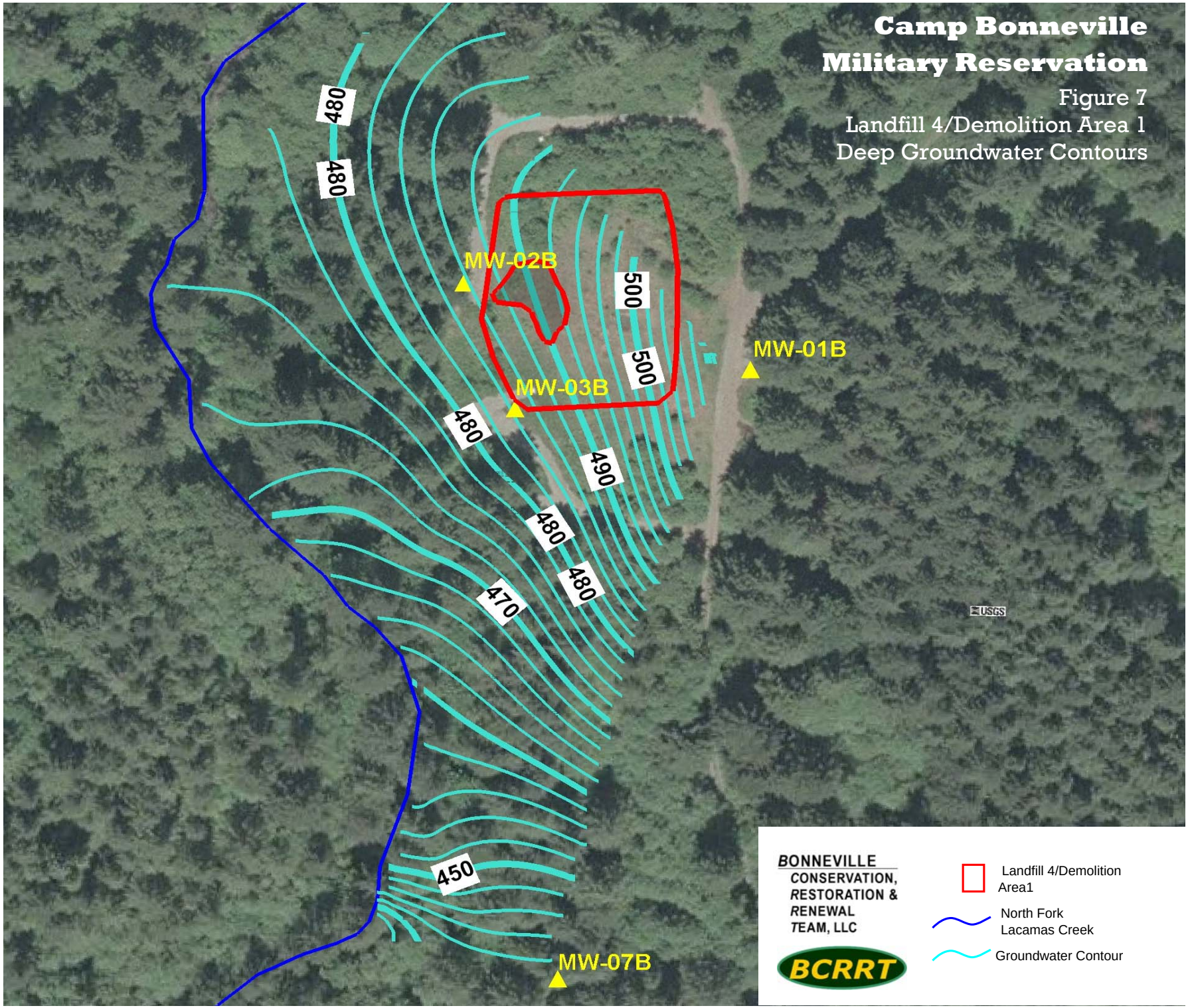
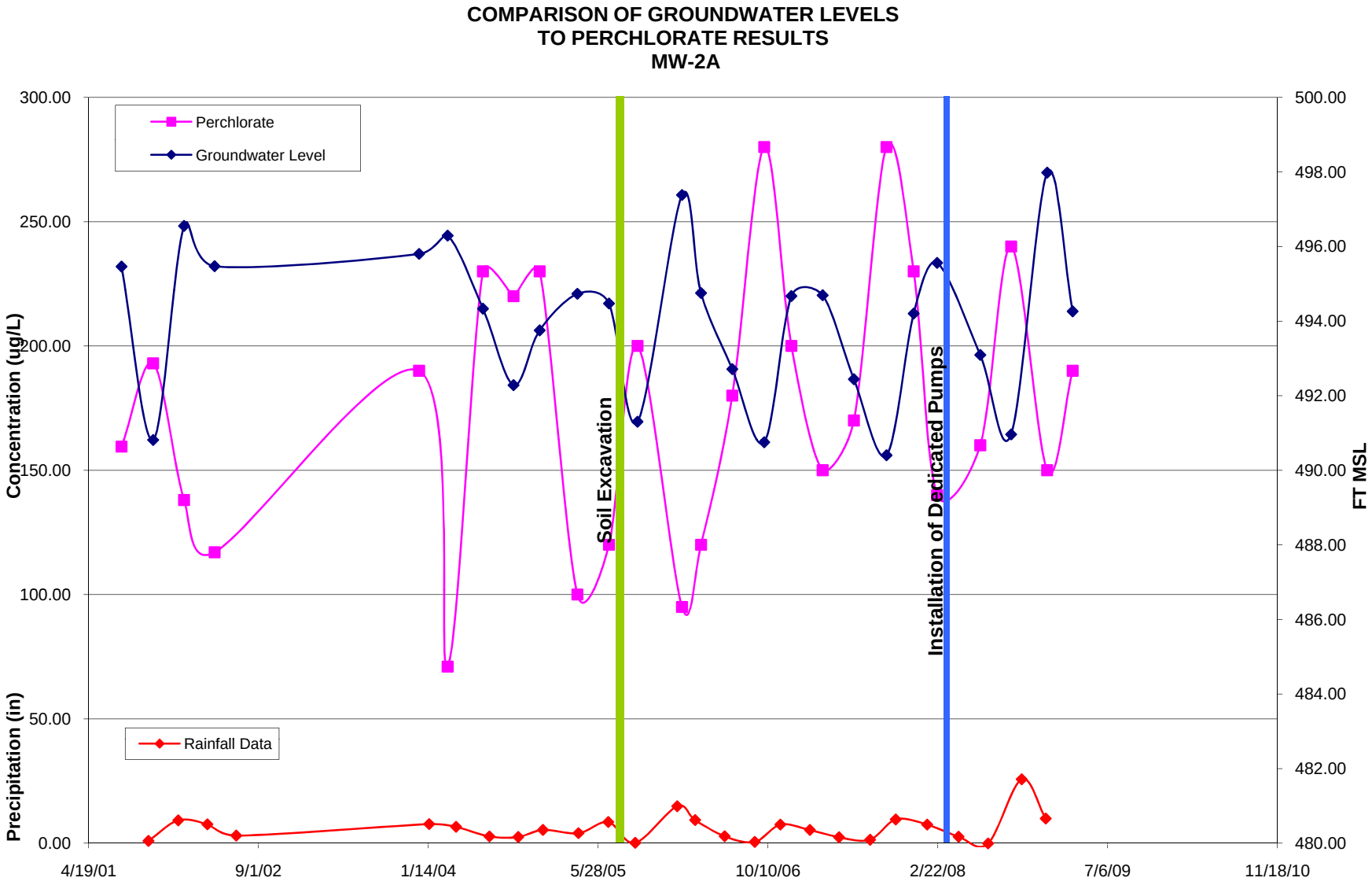
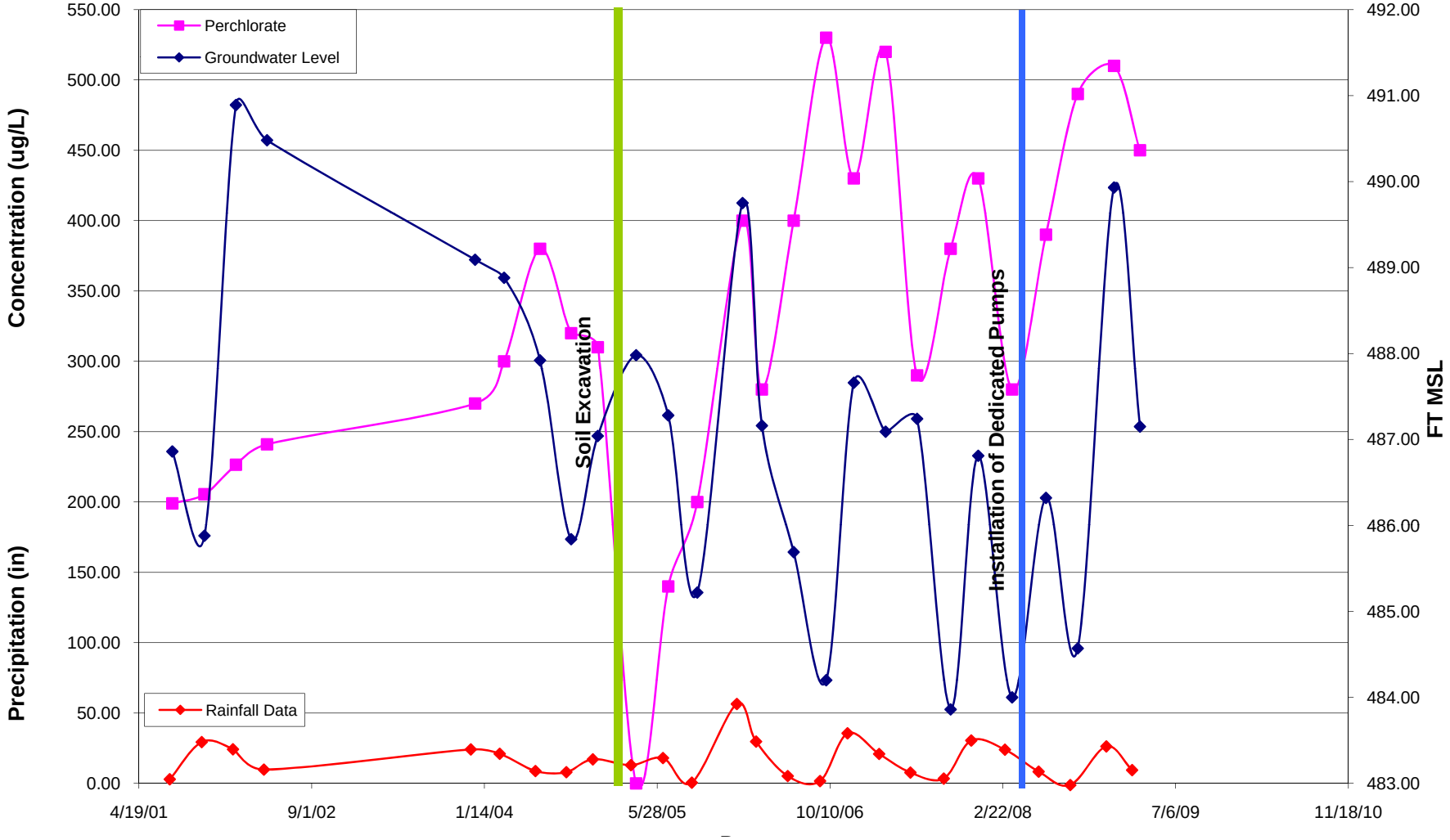
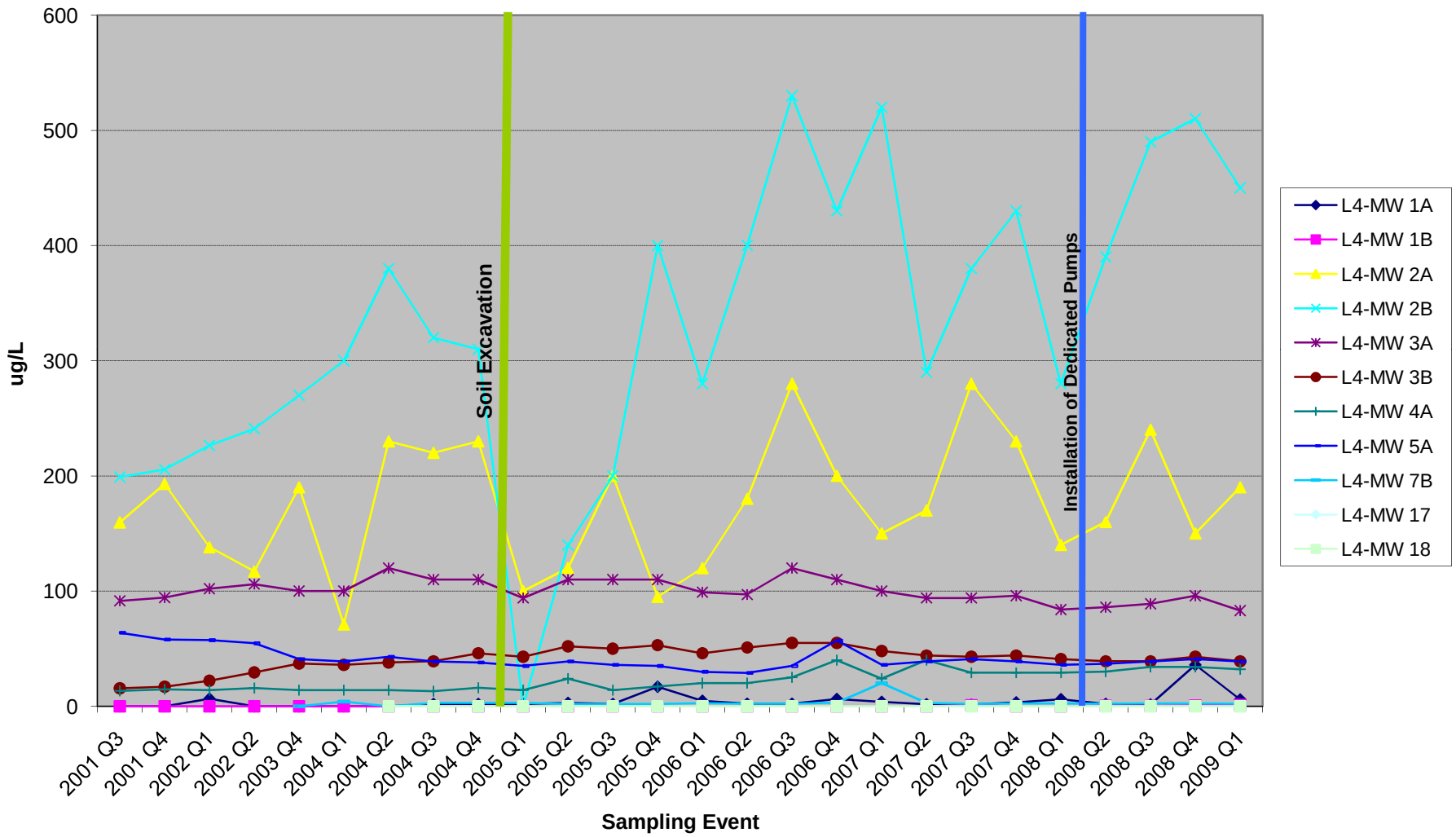
RESTORATION &
RENEWAL
TEAM, LLC
BCRRT
Landfill 4/Demolition Area1
North Fork Lacamas Creek
Groundwater Contour

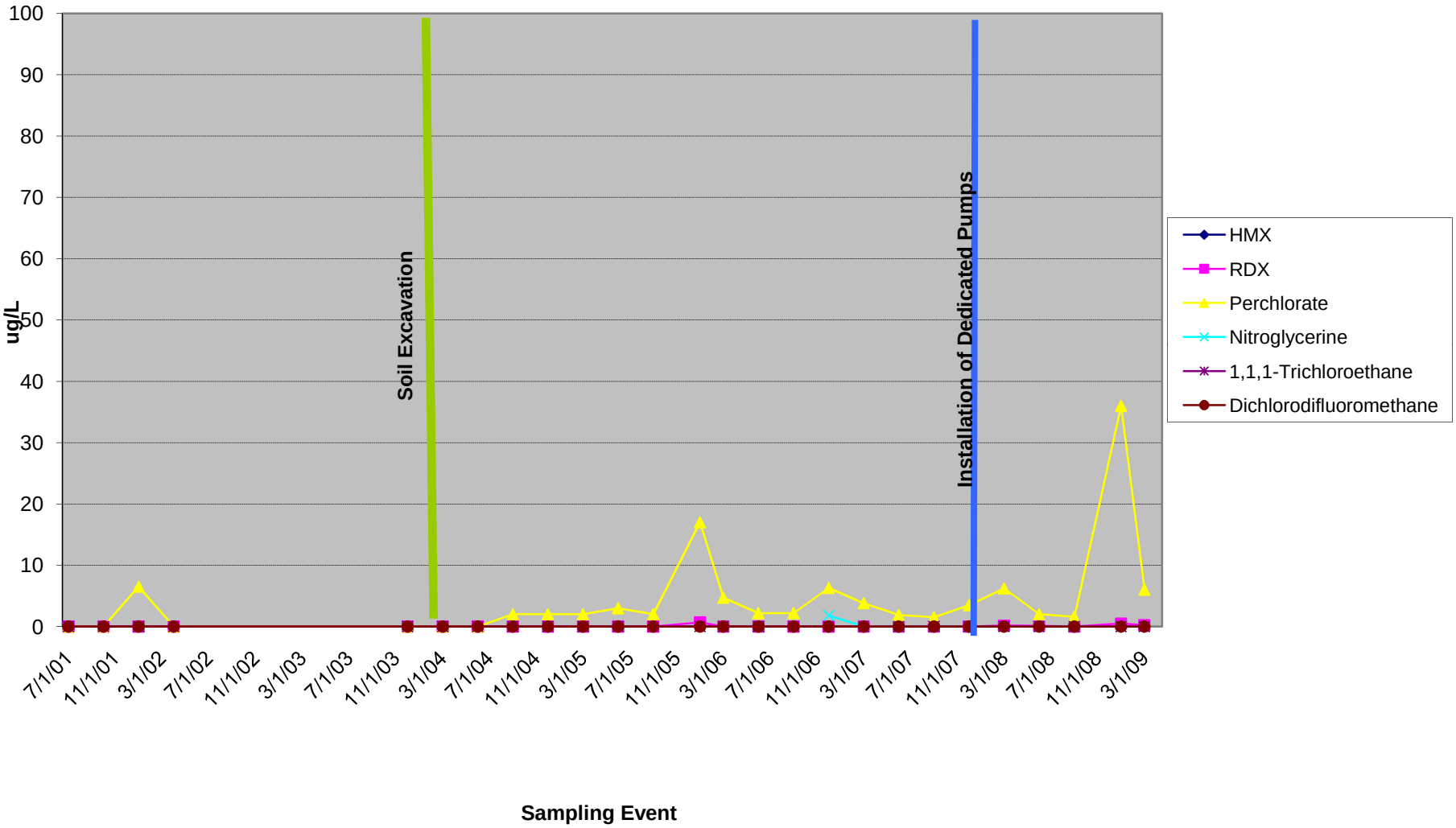

Camp Bonneville
Military Reservation
Figure 7
Landfill 4/Demolition Area 1
Deep Groundwater Contours
480
480
MW-02B
500
500
MW-01B
MW-03B
480
490
480
480
470
450
MW-07B
USGS
BONNEVILLE
CONSERVATION,
RESTORATION &
RENEWAL
TEAM, LLC
BCRRT
Landfill 4/Demolition Area1
North Fork Lacamas Creek
Groundwater Contour

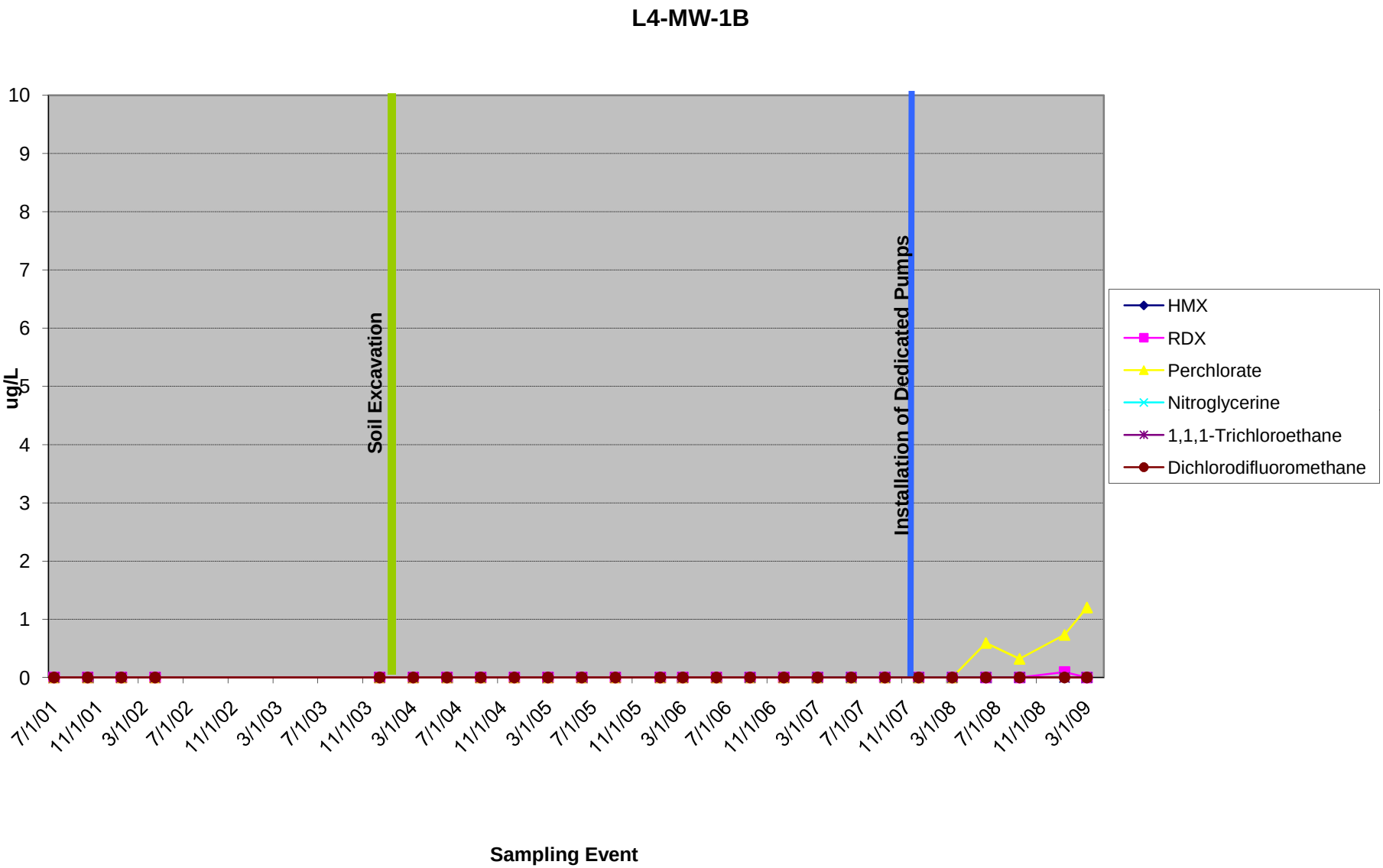

COMPARISON OF GROUNDWATER LEVELS
TO PERCHLORATE RESULTS
MW-2A
Perchlorate
Groundwater Level
Rainfall Data
Soil Excavation
Installation of Dedicated Pumps
Concentration (ug/L)
Precipitation (in)
FT MSL
300.00
250.00
200.00
150.00
100.00
50.00
0.00
500.00
498.00
496.00
494.00
492.00
490.00
488.00
486.00
484.00
482.00
480.00
4/19/01
9/1/02
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10

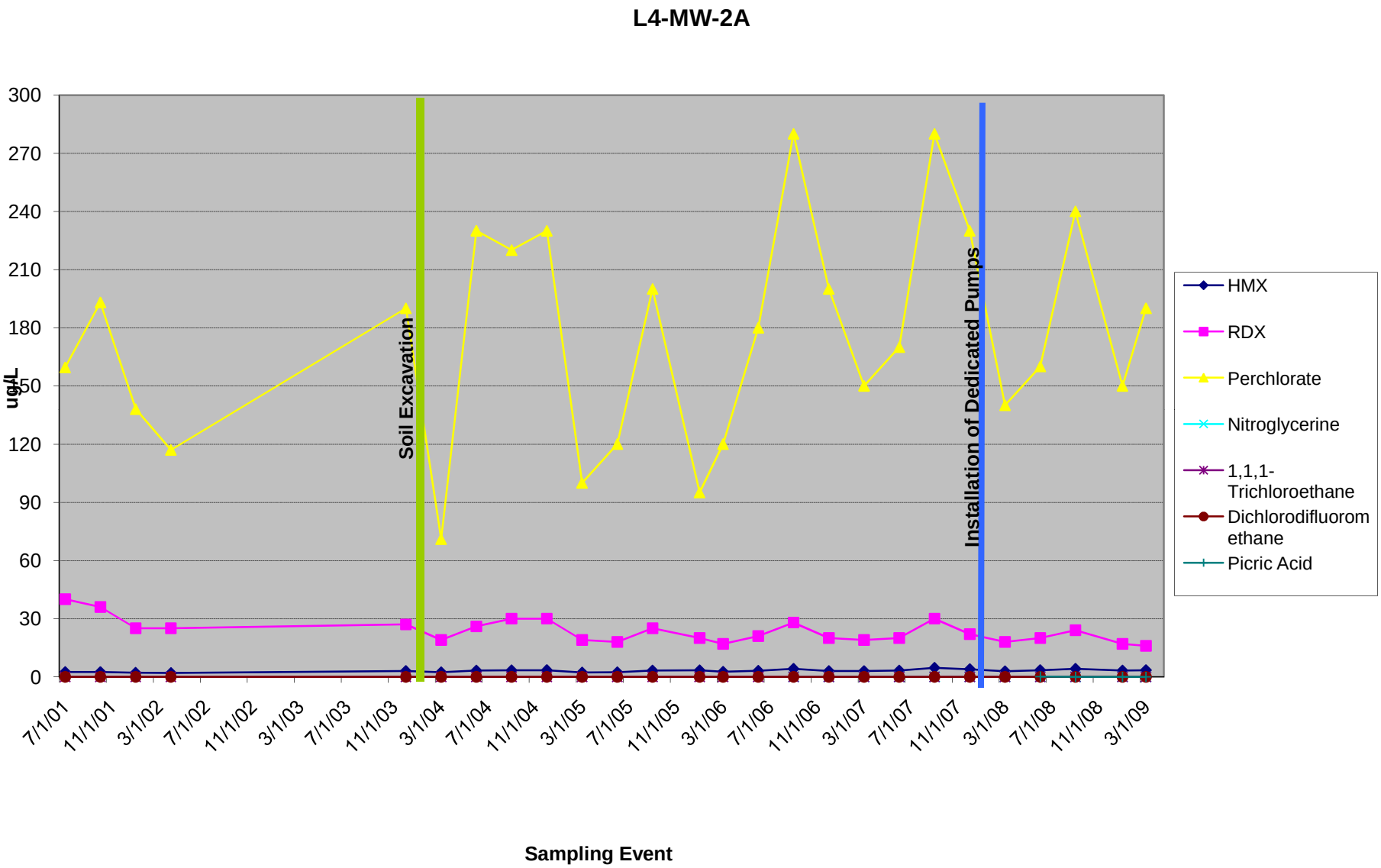
COMPARISON OF GROUNDWATER LEVELS
TO PERCHLORATE RESULTS
MW-2B



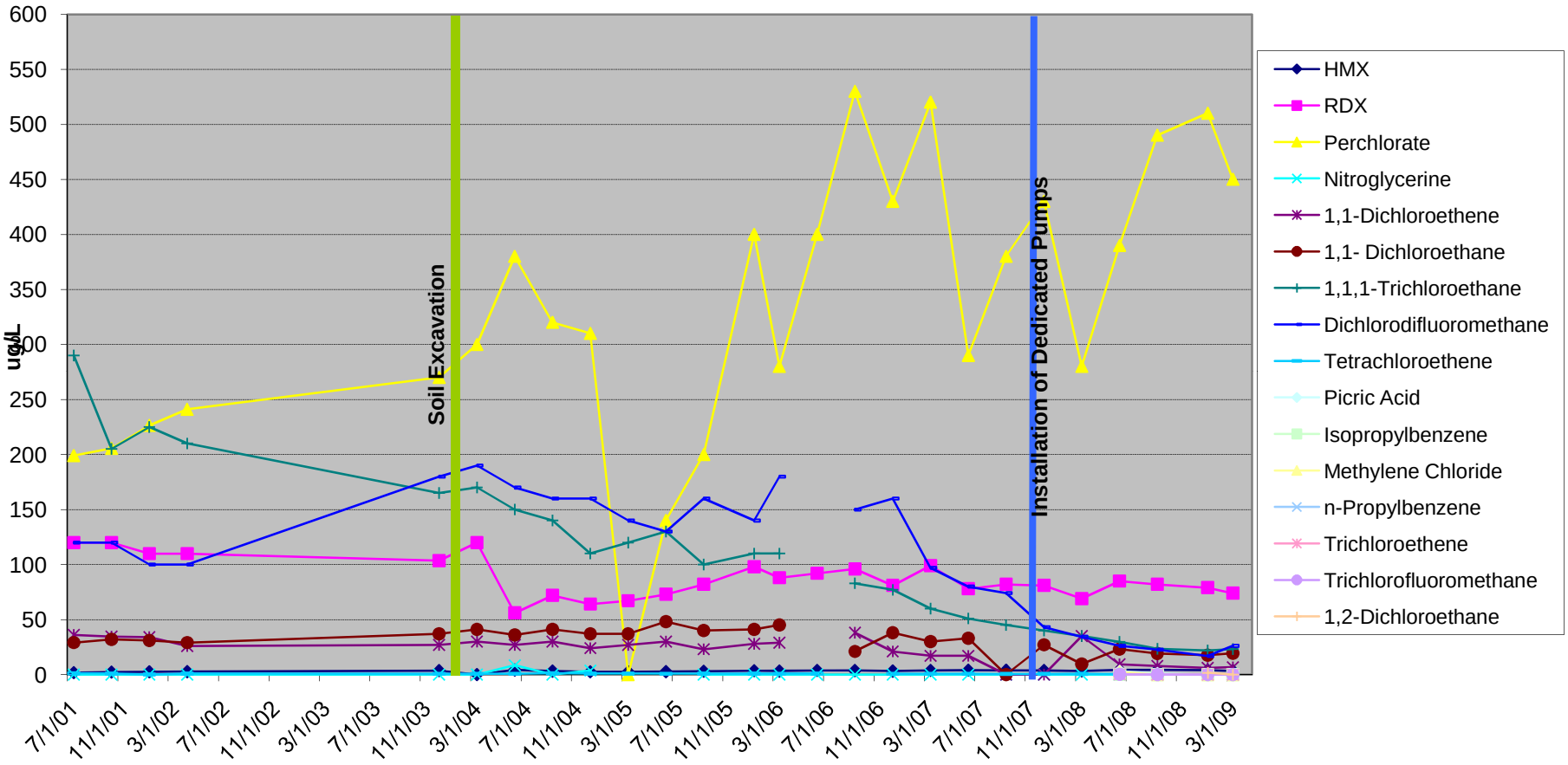

Landfill 4 Perchlorate Results
600
500
400
300
200
100
0
ug/L
Soil Excavation
Installation of Dedicated Pumps
2001 Q3
2001 Q4
2002 Q1
2002 Q2
2003 Q4
2004 Q1
2004 Q2
2004 Q3
2004 Q4
2005 Q1
2005 Q2
2005 Q3
2005 Q4
2006 Q1
2006 Q2
2006 Q3
2006 Q4
2007 Q1
2007 Q2
2007 Q3
2007 Q4
2008 Q1
2008 Q2
2008 Q3
2008 Q4
2009 Q1
Sampling Event
L4-MW 1A
L4-MW 1B
L4-MW 2A
L4-MW 2B
L4-MW 3A
L4-MW 3B
L4-MW 4A
L4-MW 5A
L4-MW 7B
L4-MW 17
L4-MW 18


L4-MW-1A
100
90
80
70
60
50
40
30
20
10
0
ug/L
Soil Excavation
Installation of Dedicated Pumps
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
Sampling Event

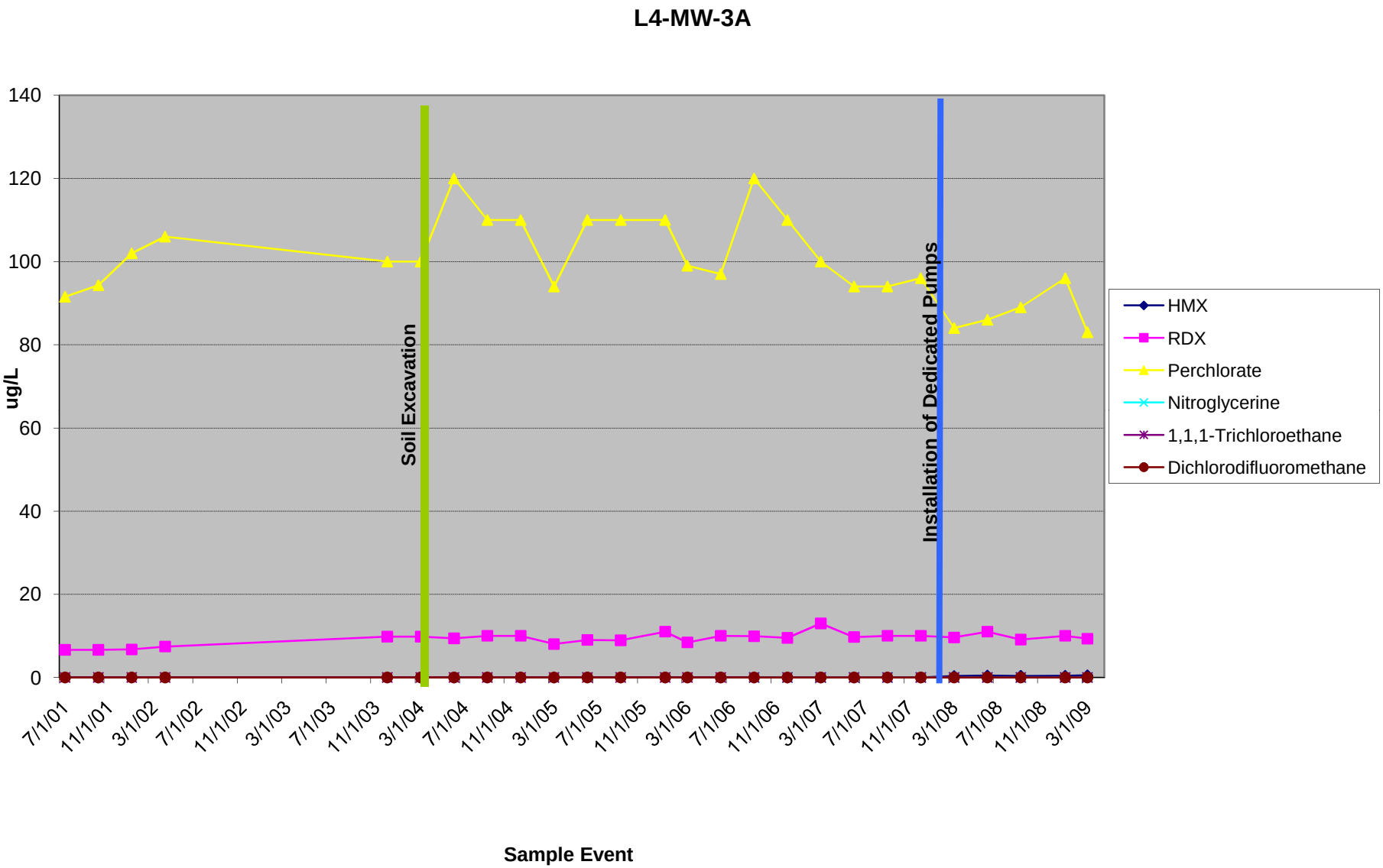

L4-MW-1B
ug/L
10
9
8
7
6
5
4
3
2
1
0
Soil Excavation
Installation of Dedicated Pumps
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
Sampling Event
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane


L4-MW-2A
300
270
240
210
180
150
120
90
60
30
0
ug/L
Soil Excavation
Installation of Dedicated Pumps
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
Sampling Event
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane
Picric Acid

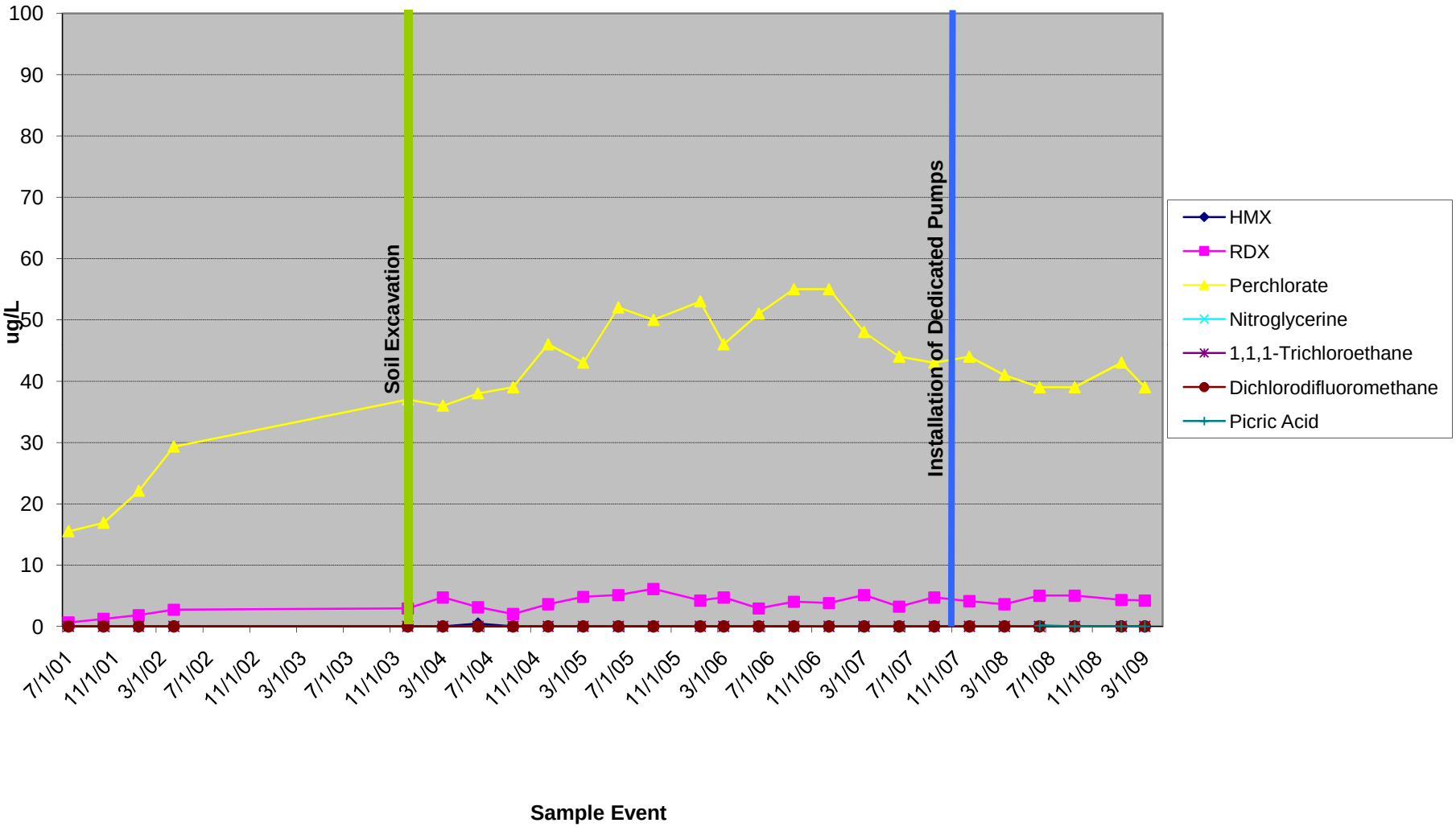
L4-MW-2B



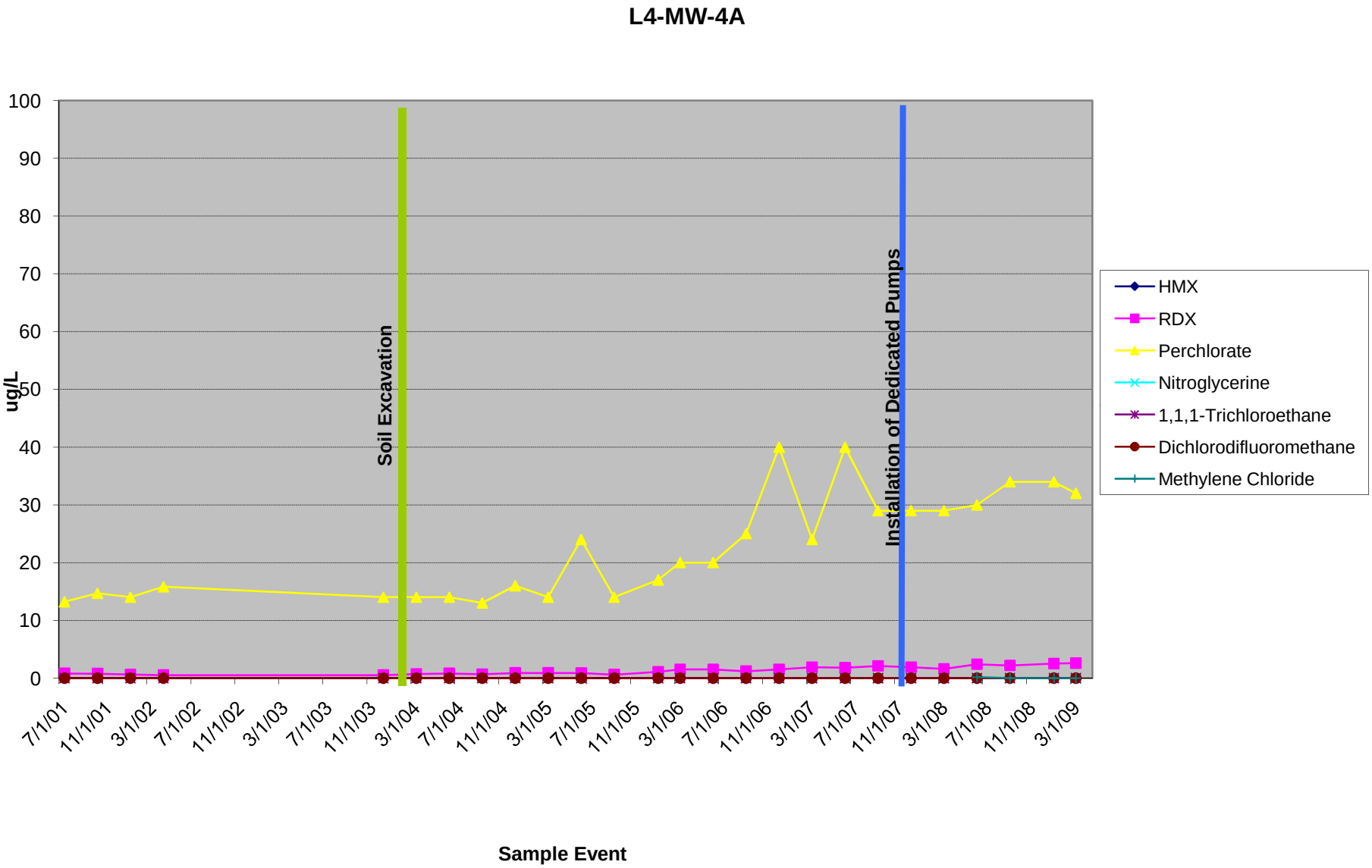
Sample Event


L4-MW-3A
140
120
100
80
60
40
20
0
ug/L
Soil Excavation
Installation of Dedicated Pumps
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
Sample Event

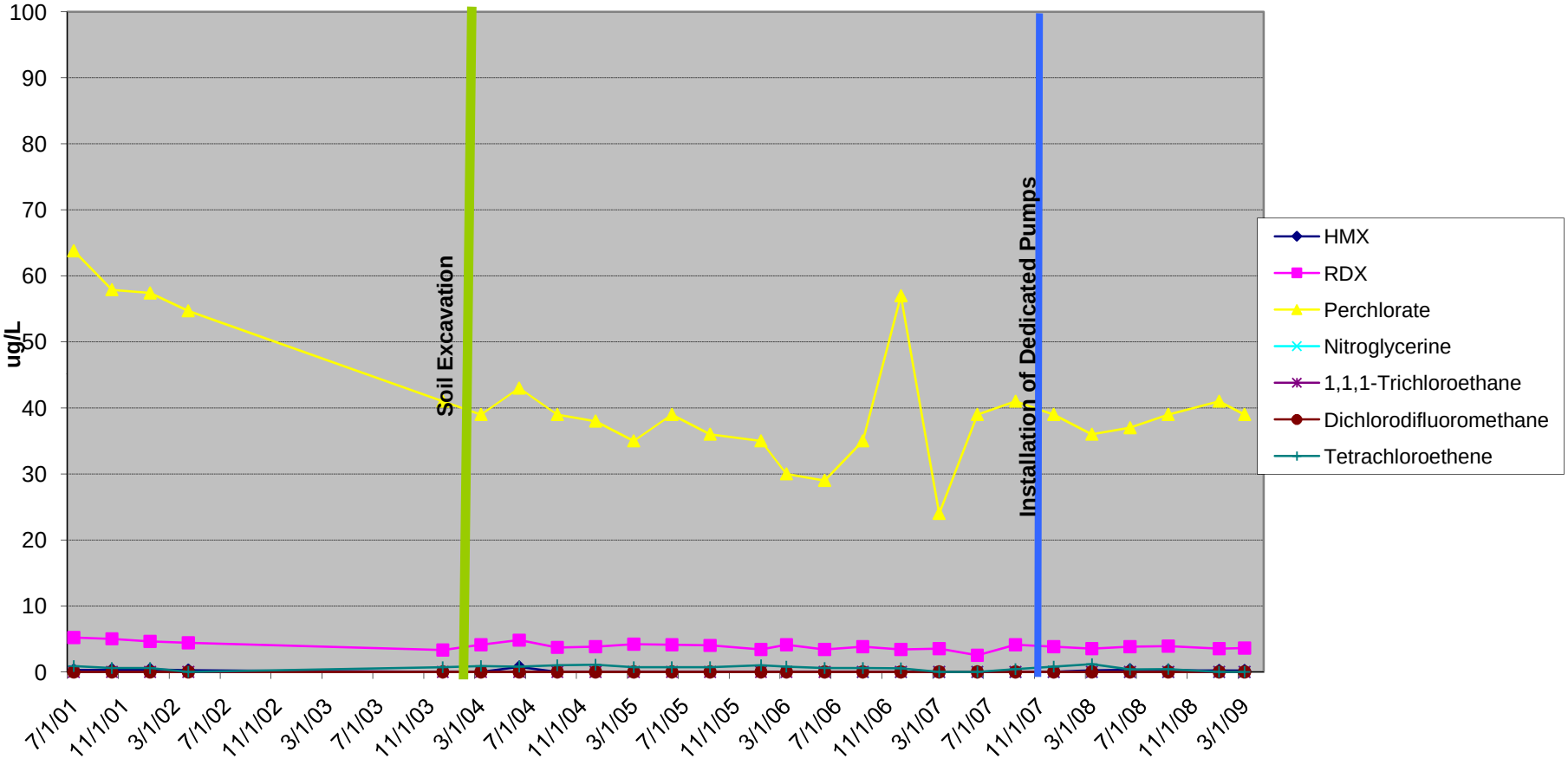
L4-MW-3B



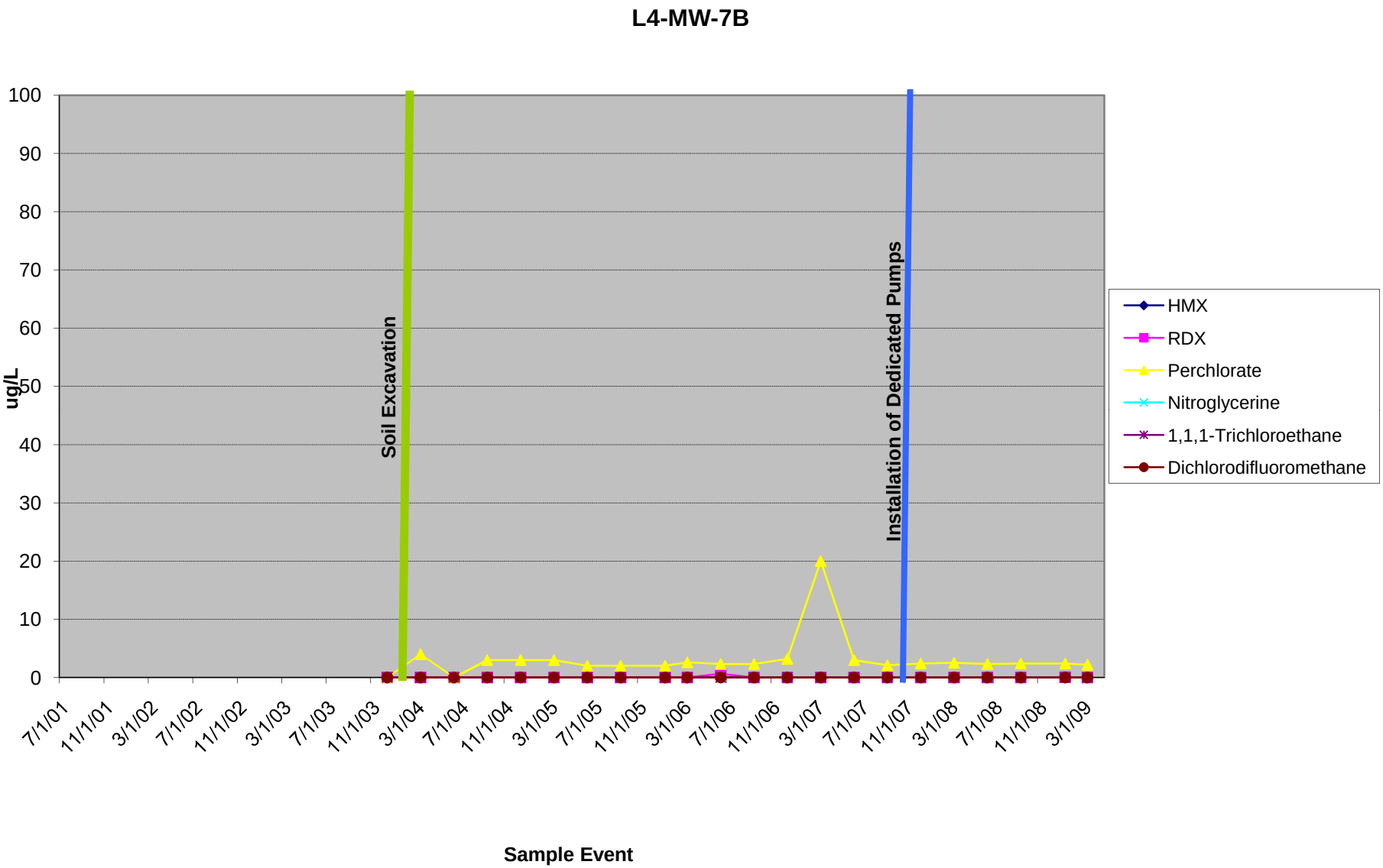
Sample Event


L4-MW-4A
ug/L
100
90
80
70
60
50
40
30
20
10
0
Soil Excavation
Installation of Dedicated Pumps
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
Sample Event
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane
Methylene Chloride

L4-MW-5A



Sample Event


L4-MW-7B
ug/L
100
90
80
70
60
50
40
30
20
10
0
Soil Excavation
Installation of Dedicated Pumps
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
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7/1/06
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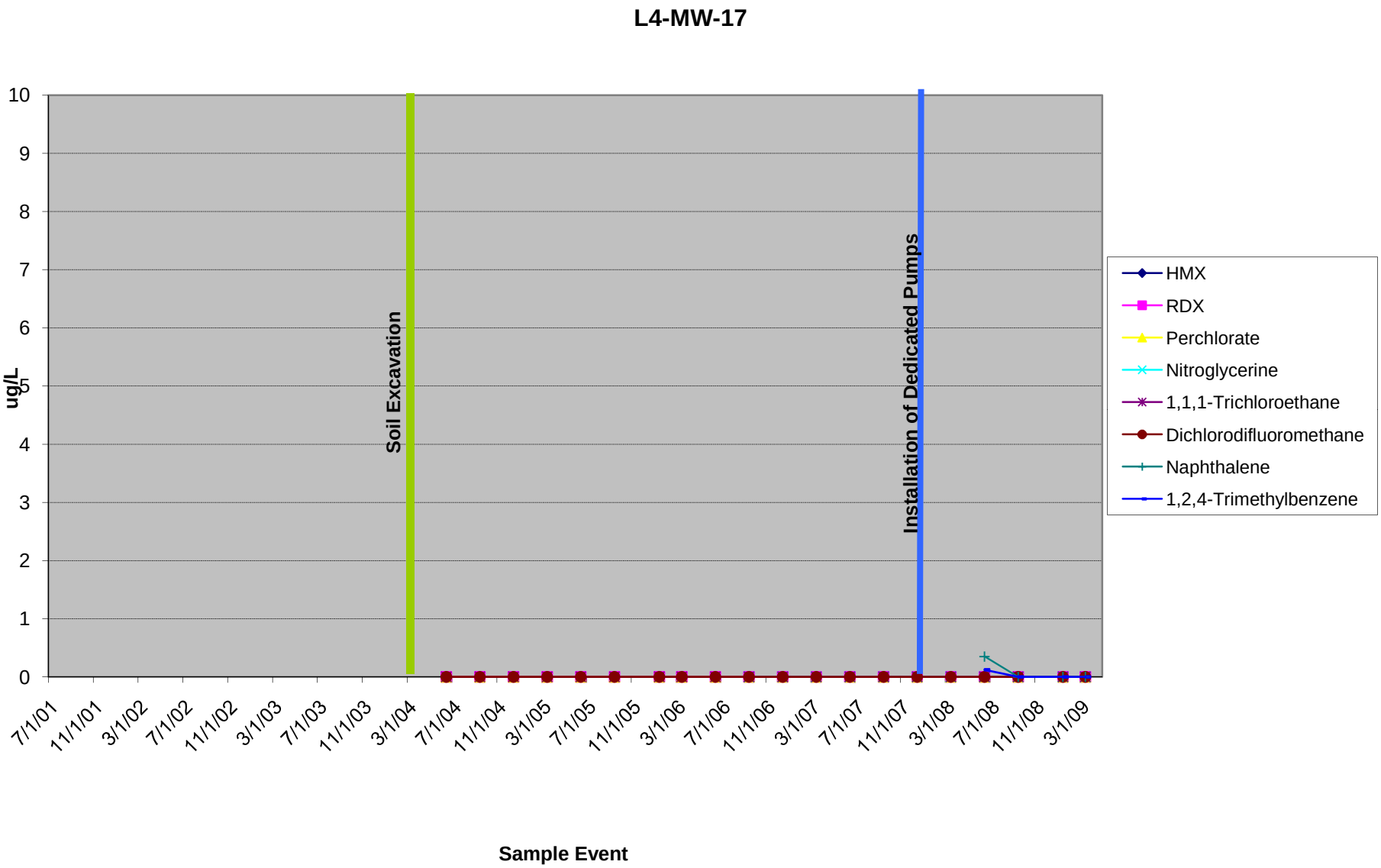
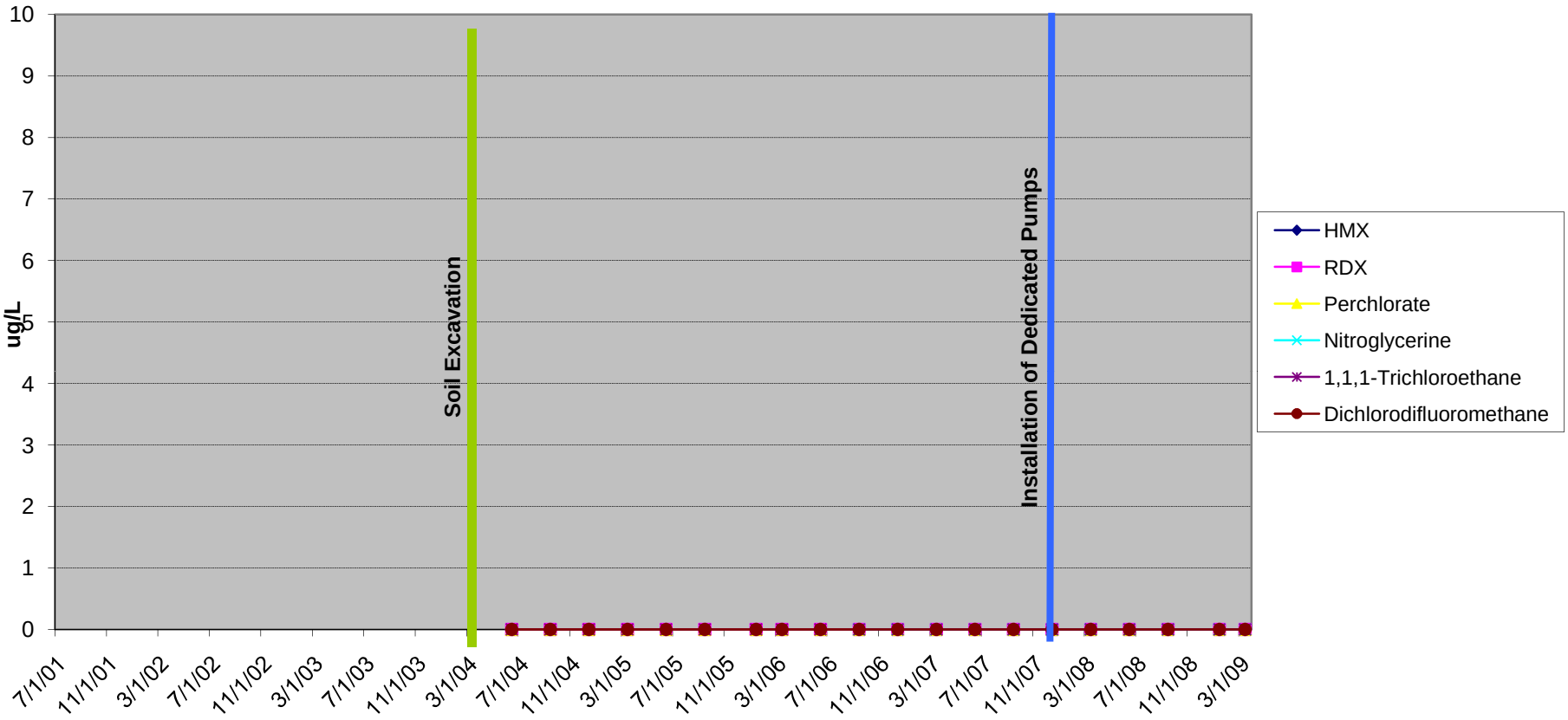
3/1/08
7/1/08
11/1/08
3/1/09
Sample Event
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane


L4-MW-17
ug/L
10
9
8
7
6
5
4
3
2
1
0
Soil Excavation
Installation of Dedicated Pumps
7/1/01
11/1/01
3/1/02
7/1/02
11/1/02
3/1/03
7/1/03
11/1/03
3/1/04
7/1/04
11/1/04
3/1/05
7/1/05
11/1/05
3/1/06
7/1/06
11/1/06
3/1/07
7/1/07
11/1/07
3/1/08
7/1/08
11/1/08
3/1/09
HMX
RDX
Perchlorate
Nitroglycerine
1,1,1-Trichloroethane
Dichlorodifluoromethane
Naphthalene
1,2,4-Trimethylbenzene
Sample Event

L4-MW-18



Sample Event

PBS | Engineering + Environmental

Groundwater Sampling and Analysis Report

1st Quarter 2009

Camp Bonneville
Vancouver, Washington

Prepared for:
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

May, 8, 2009
PBS Project No. 70489.000, Task 6216

4412 SW Corbett Avenue, Portland, OR 97239
503.248.1939 Main
503.248.0223 Fax
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1.0 INTRODUCTION

This report documents the results of groundwater sampling and analysis at two monitoring well installation locations at Camp Bonneville. The sampling and analysis was conducted for the 1st Quarter 2009. This work was performed by PBS Engineering + Environmental (PBS), Portland, Oregon, under contract to Michael Baker, Jr., Inc. (Baker). The work was performed at the Camp Bonneville Military Reservation (Camp Bonneville) northeast of Vancouver, Washington (Figure 1). Camp Bonneville is a former United States government military facility that was selected for closure under the Base Realignment and Closure (BRAC) authorization.

As part of the early transfer process for Camp Bonneville Military Reservation (CBMR), the U.S. Department of the Army (Army) and Clark County, Washington (Clark County, "County"), along with the Bonneville Conservation, Restoration, and Renewal Trust, LLC (BCRRT), negotiated an Environmental Services Cooperative Agreement (ESCA). The groundwater monitoring program is a component of the remedial-action services performed in support of the Conservation, Restoration, and Renewal Program (CRRP) associated with the facility. The CRRP includes those activities necessary to obtain Notice(s) of Completion, Site Closeout(s), and CERCLA Warranty(ies) for reconveyance of the CBMR from the BCRRT to Clark County. These additional remedial actions address requirements contained in agreements between the BCRRT and the Washington State Department of Ecology (WDOE).

The groundwater monitoring work was performed in general accordance with the Sampling and Analysis Plan (SAP) revised on September 25, 2007, the Health and Safety Plan (HASP) revised on August 24, 2007, and the Quality Assurance Project Plan (QAPP) dated November 3, 2006. Laboratory analytical services were provided by TestAmerica located in Portland, Oregon, Seattle, Washington, and Denver, Colorado, under contract to Baker.

1.1 Project Objectives

The overall objectives of site investigations at Camp Bonneville, which have been previously conducted as part of the U.S. Army BRAC process, have been to identify contaminated areas and determine the next appropriate steps toward restoration of those sites. This quarterly monitoring report describes the results of ongoing environmental monitoring of groundwater parameters at two areas in Camp Bonneville. Monitoring wells have been installed in these areas to monitor shallow and deeper groundwater to maximum depths of approximately 75 feet below the ground surface (bgs).

The sites that are currently monitored include one old landfill/demolition area (Landfill 4/Demo Area 1) and the Camp Bonneville base boundary at Lacamas Creek. Two other demolition areas (Demolition Areas 2 and 3) were previously monitored, but were removed from the monitoring program per agreement with WDOE in 2006. The attached Figure 2 shows locations of these monitoring sites.

Monitoring activities included groundwater sampling at the old landfill/demolition area and the area where Lacamas Creek exits the southwest side of the base. This monitoring was conducted in general accordance with the project SAP. The analytical results obtained from groundwater samples collected at the various monitoring well locations were compared with screening levels established for the site to determine if the groundwater potentially poses an unacceptable environmental risk. Cleanup levels established by WDOE under the Model Toxics Control Act (MTCA) have been used as screening criteria to evaluate the levels of contaminants detected at Camp Bonneville.

1.2 Scope of Work

PBS conducted a round of groundwater sampling at 19 existing monitoring wells for the 1st Quarter 2009 sampling event. Sampling for this quarter was performed from March 23 through 25, 2009. The wells were purged and sampled utilizing low-flow, minimal-drawdown procedures, as described in detail in the Groundwater Sampling and Analysis Plan (SAP, Baker, 2006c). On March 11 through 12, 2008, dedicated bladder pumps were installed into each of the wells. The bladder pumps are activated using air regulated through a control box with a small air compressor as the air source. The list of analytes was modified in a WDOE letter dated March 18, 2009. This is the first monitoring event with the abbreviated list of analytes, further detailed below.

2.0 SITE BACKGROUND

2.1 Site History

Camp Bonneville comprises approximately 3,820 acres and is located in southwestern Washington, approximately 10 miles northeast of Vancouver, Washington (Figure 1). The Department of the Army used Camp Bonneville for live fire of small arms, assault weapons, artillery, and field and air defense artillery between 1910 and 1995. Since 1947, Camp Bonneville has also provided training for a variety of military and non-military units, including National Guard, Army Reserves, and U.S. Air Force and federal, state, and local law enforcement agencies. The Federal Bureau of Investigation (FBI) used one firing range on the site for training through 2008. Camp Bonneville includes approximately 820 acres of land leased from the State of Washington Department of Natural Resources (DNR).

In July of 1995, Camp Bonneville was selected for closure under the 1995 Base Realignment and Closure process. The Camp Bonneville Reuse Plan (Otak, September 1998; updated 2003) called for the majority of Camp Bonneville to be transferred to Clark County for the public benefit – education, law enforcement, and parks, with no financial gain to Clark County. The 820 acres currently leased from the Washington DNR would either be returned to the State, the lease renewed, or the property purchased and transferred to Clark County. Transfer of the site to The Trust for Public Lands and subsequently to Clark County, began in 2006. The facility was transferred from the Army to Clark County and from the County to the Bonneville Conservation Restoration and Renewal Team (BCRRT) on October 3, 2006. BCRRT and Clark County entered into a Prospective Purchaser Consent Decree with the Washington Department of Ecology (WDOE) that requires investigating and remediating the site. Clark County intends to use the site as a Regional Park and Wildlife Refuge.

Through the years, several ordnance and explosive (OE) items have been found within Camp Bonneville's boundaries. Recent OE characterization, sampling, and removal efforts performed at Camp Bonneville confirmed the presence of OE at the site. Some of these OE items were determined to be unexploded ordnance (UXO).

2.2 Previous Investigations

During previous investigations, shallow monitoring wells were installed at Camp Bonneville at four sites: Landfill 2, Landfill 3, the Pesticide Mixing/Storage Building, and the Former Sewage Pond (Figure 2, Shannon & Wilson, 1999). Additional shallow and deep wells were installed at Landfill 4, Demolition Area 2, Demolition Area 3, and the Base Boundary at Lacamas Creek. The groundwater monitoring wells are located in

areas of documented disposal of UXO. However, the areas of the wells were cleared of UXO prior to well installation. Groundwater sampling activities were conducted only in the immediate area of the wells and did not occur in areas that have not been previously checked and cleared of UXO.

In May 2004, PBS supervised installation of two additional groundwater monitoring wells along North Fork Lacamas Creek below Landfill 4 (PBS, 2004b). The monitoring well completed in bedrock (Monitoring Well L4-MW17) was located at the west side of North Fork Lacamas Creek, at a point where the creek exits the ravine below Landfill 4. The monitoring well completed in alluvium (Monitoring Well L4-MW18) was located at the east side of North Fork Lacamas Creek near the bottom of the ravine and above the junction of an east-trending tributary stream to Lacamas Creek.

2.3 Monitoring Well Numbering

Different numbers have been assigned, over time, to monitoring wells at the Base Boundary at Lacamas Creek, Demolition Area 2, and Demolition Area 3. Well numbers used by PBS in monitoring reports for the 4th Quarter 2003, 1st Quarter 2004, and 2nd Quarter 2004 were based on proposed well locations and well identifiers, as presented in the PBS-Army BRAC Contract documents. The actual well numbers were assigned by the U.S. Army Center for Health Promotion and Preventative Medicine (CHPPM) when the wells were installed. The CHPPM well identifiers are the numbers on the well caps. Remedial Investigation (RI) reports previous to PBS' reports have used the well numbers assigned by CHPPM. Washington State Department of Ecology well tag numbers are consistent across both numbering systems.

Table 6 shows the monitoring well numbers used by PBS (per the PBS-Army BRAC Contract document), WDOE well tag numbers, well locations, total depth, screened interval and CHPPM well identification numbers used in former RI reports for Camp Bonneville. The well numbers used in the PBS quarterly reports are cross-referenced to the CHPPM numbers and the WDOE well tag numbers in Table 6.

2.4 Groundwater Monitoring Locations

For the 1st Quarter 2009, PBS conducted groundwater sampling and analysis for monitoring wells at the Landfill 4 area and the Base Boundary at Lacamas Creek. The locations of monitoring wells are shown on Figure 3 (Base Boundary at Lacamas Creek) and Figure 4 (Landfill 4/Demo Area 1). The monitoring wells at the sites are listed below (S = shallow well; D = deep well) according to the CHPPM numbers:

- Base Boundary at Lacamas Creek
  - Paired Monitoring Wells: LC-MW01S and LC-MW01D
  - Paired Monitoring Wells: LC-MW02S and LC-MW02D
  - Paired Monitoring Wells: LC-MW03S and LC-MW03D
  - Paired Monitoring Wells: LC-MW04S and LC-MW04D

- Landfill 4/Demo Area 1
  - Paired Monitoring Wells: L4-MW01A (shallow) and L4-MW01B (deep)
  - Paired Monitoring Wells: L4-MW02A (shallow) and L4-MW02B (deep)
  - Paired Monitoring Wells: L4-MW03A (shallow) and L4-MW03B (deep)
  - Monitoring Well L4-MW04A (shallow)
  - Monitoring Well L4-MW05A (shallow)

- Monitoring Well L4-MW07B (deep)
- Monitoring Well L4-MW17 (in bedrock)
- Monitoring Well L4-MW18 (in alluvium)

2.5 Chemicals of Potential Concern

A summary of chemicals of potential concern (COPC) is presented in Table 1. Specific analytes and laboratory analysis methods, sample container types, preservation techniques, and holding times for the chemical analyses are presented in Tables 2-2 and 2-3 in the GW SAP (PBS, 2006).

Table 1. Chemicals of Potential Concern

Sampling Areas	Munitions Compound Classes	High Explosives and Organic Compounds	Artillery Propellants	Other
Landfill 4 Demolition Areas Base Boundary	Artillery Propellants HE Missile/ Rocket Propellants	TNT RDX PETN PA HMX NG	Black Powder (nitrate) Plasticizers Stabilizers AP	Priority Pollutant Metals TPH SVOCs VOCs

Notes:
AP = ammonium perchlorate
Black powder is a mixture of potassium or sodium nitrate, charcoal, and sulfur
Plasticizers = dibutylphthalate; diethylphthalate
Stabilizers = diphenylamine; N-nitrosodiphenylamine
HE = high explosives; 2,4 DNT, 2,6 DNT
HMX = octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine (Cyclonite)
NG = nitroglycerine
PA = picric acid
PETN = pentaerythritol tetranitrate
TNT = 2,4,6-trinitrotoluene
TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds
SVOCs = semivolatile organic compounds

3.0 GROUNDWATER SAMPLING

PBS conducted groundwater sampling for the 1st Quarter 2009 event at 19 existing monitoring wells at two locations within Camp Bonneville (Figures 3 and 4). Monitoring wells were sampled during the period of March 23 through 25, 2009. The monitoring wells were sampled in accordance with the procedures established in the groundwater SAP, dated December 14, 2006, and revised September 25, 2007. The procedures detailed in the SAP include sample collection, sample labeling, chain of custody, field documentation, decontamination, and investigative-derived waste handling. The groundwater SAP was prepared by PBS and Michael Baker, Jr., and submitted to WDOE. Health and safety procedures followed during site activities were in compliance with the procedures established in the Site Health and Safety Plan (HASP), dated October 30, 2006, and revised August 14, 2007. The HASP was prepared by Michael Baker, Jr., and approved by WDOE.

Changes made to the SAP included installation of dedicated bladder pumps in each of the wells on March 11 and 12, 2008. This was done as outlined in a letter from Baker to WDOE dated February 13, 2008.

A recent change in the list of analyses for the Base Boundary wells was approved in a letter by WDOE dated March 18, 2009. This change involved a reduction in analyses for the Base Boundary wells to the following:

- VOCs by EPA Method 8260B (no tentatively identified compounds)
- Explosives including picric acid, nitroglycerin and PETN by EPA Method 8330
- Perchlorate by Method 314.1
- Field Measurements of temperature, specific conductivity, dissolved oxygen, pH, oxidation reduction potential and water levels.

This list is the same for the Landfill 4 wells, with the only difference being the elimination of the TICs under the EPA Method 8260B for VOCs. Once a year, the Base Boundary wells will include additional analyses (priority pollutant metals, semi-volatile organic compounds, polynuclear aromatic compounds, and pH). These extra analyses will be done during the 4th quarter of each year.

3.1 Low-Flow Purging

A low-flow, minimal-drawdown technique was used for groundwater purging and sampling using dedicated Solinst bladder pumps constructed out of PVC body and a Teflon bladder. The low flow purging technique is described in detail in the groundwater SAP. Low-flow sampling minimizes disturbance to the aquifer and is designed to ensure that samples collected from the wells are representative of groundwater. A low pumping rate is chosen to match the laminar flow in the immediate vicinity of the sampling pump intake; thus, drawing groundwater directly from the aquifer, horizontally through the well screen, and into the pump.

3.2 Sample Collection

Samples were collected into the laboratory-supplied sample containers directly from the end of the dedicated discharge hose. Groundwater samples requiring preservatives were collected in sample bottles supplied by the contract laboratory and contained the appropriate amounts of preservative solution. Sample containers for VOCs and TPH were filled completely to the top of the container, and the container cap screwed on to prevent any air remaining in the headspace of the container.

3.3 Quality Assurance/Quality Control Samples

Duplicate samples were collected at a frequency of 1 per 10 monitoring well samples. Matrix spike/matrix spike duplicate (MS/MSD) samples were collected at a frequency of 1 per 20 monitoring well samples. Trip blanks were submitted with shipments containing groundwater samples for VOC analyses. Dedicated pumps in all the wells eliminate the need for equipment blanks.

4.0 DATA MANAGEMENT AND REVIEW

The laboratory data quality was validated before use according to the procedures described in the QAPP. PBS reviews laboratory QA/QC results, trip blank analytical results and compares duplicate sample results. All analytical data is received from the laboratory in an electronic data deliverable (EDD) format to be imported into Earthsoft EQuIS database. Qualifiers from the laboratory are included as well as any qualifiers to the data as the result of data validation procedures conducted by PBS.

The analytical tables include the State of Washington MTCA levels for comparison with regulatory and risk-based criteria. MTCA Method B Cleanup values and applicable, relevant and appropriate state and federal groundwater screening values were obtained from the WDOE CLARC database (https://fortress.wa.gov/ecy/clarc/Reporting/CLARCReporting.aspx). These

are the most up to date values for the MTCA Method B and applicable groundwater cleanup values for unrestricted land use.

5.0 GROUNDWATER MONITORING RESULTS

5.1 Base Boundary at Lacamas Creek

Groundwater samples were collected from the four monitoring well pairs located at the Base Boundary at Lacamas Creek (Figure 3) on March 23, 2009. A field duplicate sample (labeled LCMW460W) was collected from Monitoring Well LCMW04S. Extra volume of groundwater was collected from Monitoring Well LCMW01S for the purpose of supplying extra water for laboratory MS/MSD samples. Trip blanks accompanied all groundwater VOC sample containers.

Water level depths in the wells ranged from 4.48 to 5.64 feet below the top of the PVC well casings. These represent water elevations in the wells ranging from 285.13 to 287.15 feet above mean sea level (AMSL).

The laboratory analytical results are presented in Table 2. Groundwater field parameters (i.e., pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity) recorded at the time of sampling are presented in Table 3.

VOCs were not detected in any of the Base Boundary wells. Explosive compounds, RDX, HMX, nitroglycerine, PETN, and picric acid were not detected in any of the groundwater samples.

Perchlorate was not detected above the laboratory detection limits of 1 μg/L in the groundwater samples from the Base Boundary monitoring wells with the exception of one sample (LCMW04S) which had a reporting limit of 10 μg/L. Third party validation was performed on the laboratory data package (see Appendix A) and it was determined that the sample contained an elevated reporting limit due to instrument blank contamination and carryover. The field duplicate sample (LCMW460W) was not detected above the laboratory detection limits of 1 μg/L, therefore, the LCMW04S value was determined to be non-detect (see Section 7.2).

5.2 Landfill 4/Demolition Area 1

Groundwater samples were collected from monitoring wells at Landfill 4/Demolition Area 1 (Figure 4) on March 24 and 25, 2009. A field duplicate sample (labeled L4MW465W) was collected from Monitoring Well L4MW01A. Trip blanks accompanied all groundwater VOC sample containers.

The pump from MW-18 was removed from the well during the previous sampling event (January 2009) because it wasn't operating properly. After checking the bladder for leaks, the filter material around the intake port was replaced. The pump was reset in MW-18 the day prior to this sampling event to allow the water column to stabilize. Some increase in turbidity measurements may be reflective of the recent pump reinstallation.

Water level depths in the wells around the perimeter of the landfill ranged from 13.13 to 28.97 feet below the top of the PVC well casings. These represent water elevations in the wells ranging from 484.34 to 516.44 feet AMSL. The water level in the monitoring well located downstream of the landfill (Monitoring Well L4MW07B) was 39.33 feet below the top of the PVC well casing (441.47 feet AMSL). Monitoring wells along North

Fork Lacamas Creek at the base of the stream ravine, downstream of Landfill 4, had water levels below the top of the PVC casing at 10.22 feet in Monitoring Well L4MW17 and 11.22 feet in Monitoring Well L4MW18 (351.26 feet and 351.62 feet AMSL, respectively).

The laboratory analytical results are presented in Table 2. Groundwater field parameters (i.e., pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity) recorded at the time of sampling are presented in Table 3.

PETN, picric acid, and nitroglycerin, were not detected in any of the groundwater samples from shallow or deep monitoring wells. HMX and RDX were not detected in Monitoring Wells L4MW17, L4MW18, L4MW01B, and L4MW07B. HMX and RDX were both detected in monitoring wells L4MW02A, L4MW02B, L4MW03A, and L4MW05A. RDX only was detected in monitoring wells L4MW01A, L4MW03B, and L4MW04A.

Perchlorate was detected in groundwater samples from all the Landfill 4 monitoring wells except L4MW17 and L4MW18. The concentrations range from 1.2 μg/L at L4MW01B to 450 μg/L at L4MW02B. The highest levels of HMX, RDX, and perchlorate were found in the groundwater samples from the paired monitoring wells MW02A and MW02B.

VOCs detected at Landfill 4 monitoring well L4MW02B included 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, and dichlorodifluoromethane, although below applicable MTCA Method B cleanup values. VOCs were not detected in any of the other monitoring wells.

6.0 RECENT TRENDS IN WATER QUALITY DATA

The laboratory results for the groundwater parameters were compared for the 1st Quarter 2009 event and the nine previous quarterly sampling events. These sampling quarters covered sampling periods of December 2006 through March 2009 and encompass the range of seasonal climatic (rainfall and temperature) and groundwater level conditions at the monitoring well sites. A summary of groundwater parameter data trends are listed below.

Perchlorate

- L4MW02B, the well with the highest perchlorate concentrations, follows a quasi-seasonal pattern with a slight decreasing trend from a peak concentration (530 μg/L in 3rd quarter 2006), when the longer lag time for seasonal effects are taken into consideration. While the previous three quarters have seen an increase in the perchlorate concentration, the most recent monitoring event had a decrease in perchlorate concentrations, from 520 μg/L in 4th quarter 2008 to 450 μg/L during the 1st quarter of 2009. As anticipated, the LF4MW02B perchlorate concentrations decreased again, similar to the cyclical patterns observed since 2007.

- Perchlorate concentrations in L4MW02A had an increasing trend from March 2008 (140 μg/L) through September 2008 (240 μg/L), then a slight decrease was observed during the 4th quarter of 2008 to 150 μg/L and then a slight increase to 190 μg/L in the 1st quarter of 2009. L4MW02A perchlorate concentrations appear to have a slight decreasing trend since 2007.

- Perchlorate concentrations have shown very little variability at L4MW03A, with concentrations ranging from a high of 100 μg/L in March 2007 to a low of 83 μg/L in March 2009.

- Perchlorate has remained at about the same concentration at monitoring wells L4MW01B, L4MW03B, L4MW04A, L4MW05A, and L4MW07B.

- Perchlorate was not detected in Landfill 4/Demolition Area 1 monitoring wells L4MW17 and L4MW18 above the MRL of 1 μg /L.

- Perchlorate concentrations exceed the MTCA Method B standard value for groundwater at monitoring wells L4MW02A, L4MW02B, L4MW03A, L4MW03B, L4MW04A, and L4MW05A.

Explosives

- HMX concentrations are relatively consistent through the recent sampling events, with the most variability seen in L4MW02A and L4MW02B. HMX concentrations are below the applicable screening value (1,800 μg /L) by at least three orders of magnitude.

- RDX concentrations are above the MTCA Method B standard value (0.8 μg /L) for groundwater at monitoring wells L4MW02A, L4MW02B, L4MW03A, L4MW03B, L4MW04A, and L4MW05A.

- RDX concentrations are the highest at monitoring well L4MW02B but have an overall decreasing trend from a high of 96 μg /L in March 2007 to a low of 69 μg/L during March 2008. The most recent event had a RDX concentration of 74 μg /L.

7.0 DATA QUALITY OBJECTIVES

The overall data quality objective is to provide data of known and sufficient quality to evaluate the physical extent and concentration ranges of chemicals of potential concern from analysis of groundwater samples and to assure compliance with environmental and health-related agencies. Data quality objectives for laboratory analysis are presented in the QAPP. Laboratory analytical data were evaluated with respect to quality assurance objectives for precision, accuracy, representativeness, comparability, and completeness parameters. The project specifications were met for all of these analytes, indicating that the sampling and analysis procedures were reproducible. The laboratory report narratives (TestAmerica) state that all quality control parameters that affect sample analysis were met.

7.1 Field Data Quality Assessment

There are no specific data quality objectives for the measurement of field parameters (such as temperature, pH, ORP, conductivity, dissolved oxygen, and turbidity). Specific conductance, temperature, ORP, dissolved oxygen, and pH was measured during purging. Turbidity is measured during sample collection. Stabilization was considered reached when three consecutive readings were within ±0.3 for pH, ±1 degrees C for temperature, ± 10 percent for specific conductance, ± 10mV for ORP, and ± 0.5 mg/L for DO.

7.2 Quality Control Sample Assessment

Trip blanks accompanied the groundwater samples for VOC analysis that were consolidated daily into one cooler and shipped to the laboratory. Trip blanks were shipped on March 23 through 25, 2009. All three trip blanks were analyzed for VOCs and none had compounds detected above the method detection limit.

One duplicate sample was collected from each of the study areas. The duplicate samples were analyzed for the same constituents as the source sample. The RPD was calculated as the difference between the values divided by the average of the values. For samples with results greater than five times the practical quantification limit (PQL), an RPD of less than 20 percent is considered good duplication. For samples with results less than five times the PQL for analysis, the above difference between the sample and its duplicate must be less than the PQL in order to meet the quality assurance acceptance criteria. A significant difference between duplicate values for a few parameters indicates potential problems with the precision of specific analyses. A significant difference for many parameters indicates potential problems with the sample-collection procedures.

While the laboratory analysis report for the MW-04S groundwater sample (LCMW04S) was an estimated value of 6.9 μg/L, the reported result was below the method reporting limit but above the method detection limit (i.e. estimated). In addition, a field duplicate had been collected from the same well (MW-04S/ LCMW460W) and was reported as not detected above the laboratory detection limits of 1 μg/L. This disparity between the sample and duplicate results initiated a re-analysis by the laboratory and an independent validation of the final laboratory data package for these samples.

While the laboratory re-analysis did not result in an adjustment of the perchlorate results, the validator's review of the final laboratory data package qualified the LCMW04S and re-analysis results as "U" and "UJ" - Not Detected, due to the possibility of cross contamination. This possible cross contamination was identified in the contamination of instrument blanks preceding the sample analysis (see Appendix A).

Based upon the validator's qualifications, the field duplicate sample (LCMW460W) not detected above the laboratory detection limits of 1 μg/L, and in consultation with the validator, the LCMW04S value was determined to be non-detect for this report.

Laboratory analysis results for duplicate sample L4MW465W were consistent with the concentrations in the original sample MW01AW except for RDX and perchlorate, which exceeded the RPD of 20 percent between the two samples. The absolute difference in the RDX concentrations was less than the method detection limit so those values are acceptable. The absolute difference of the perchlorate concentrations was greater than the MRL and the RPD was 26.09% so the values are considered estimated and flagged with a "J".

7.3 Laboratory Analysis Chemical Data Quality

The analytical data quality evaluations performed by TestAmerica are presented in Appendix A with the analysis summary reports for the specific tests. Case narratives describing sample receipt, identification, and general comments by laboratory personnel are included preceding the copies of the chain-of-custody forms for each report.

No sample analytical laboratory results were rejected. The case narratives and analysis summary reports indicate that most analytical results are acceptable for use without qualification. Some individual sample results were qualified as estimated values that were low-level detections below the laboratory instrument practical quantification limits (PQL), and flagged with "J" on the laboratory summary reports.

All samples were received within the holding times for transport from the collection site to the laboratory. Exceptions to the collection and analysis criteria are listed below and noted in the laboratory case narrative documentation in Appendix A.

- MS/MSD duplicate analyses were performed on sample LCMW01S for work order PSC0739. HMX did not meet the recovery limits on the matrix spike but did on the matrix spike duplicate and met other calibration test requirements so the HMX data for this sample delivery group is considered valid.

7.4 Deviations to Standard Procedures

During the groundwater sampling event for the 1st Quarter 2009, the deviations from standard procedures of the SAP included the use of dedicated pumps in each of the wells and eliminating the equipment blank. The pump in MW-18 was not functioning properly during the 4th quarter of 2008 so was removed, cleaned and the filter material replaced. The pump was reinstalled the day before sampling during the current quarter. Since the analytical results for these wells are within historical range for all analytes, there does not appear to have been an adverse affect to the 1st quarter results of this well.

8.0 LIMITATIONS

This study was limited to the tests, locations, and depths as indicated to determine the absence or presence of certain contaminants. The site as a whole may have other contamination that was not characterized by this study. The findings and conclusions of this report are not scientific certainties but, rather, probabilities based on professional judgment concerning the significance of the data gathered during the course of this investigation. PBS is not able to represent that the site or adjoining land contain no hazardous waste, oil, or other latent conditions beyond that detected or observed by PBS.

PBS Engineering + Environmental is pleased to present these results for the 1st quarter of 2009 groundwater sampling event. Please contact the undersigned if there are any questions.

Sincerely,
PBS Engineering + Environmental

Barbara E. Lary, LG
Senior Geologist

Dulcy A. Berri, LG
Senior Hydrogeologist

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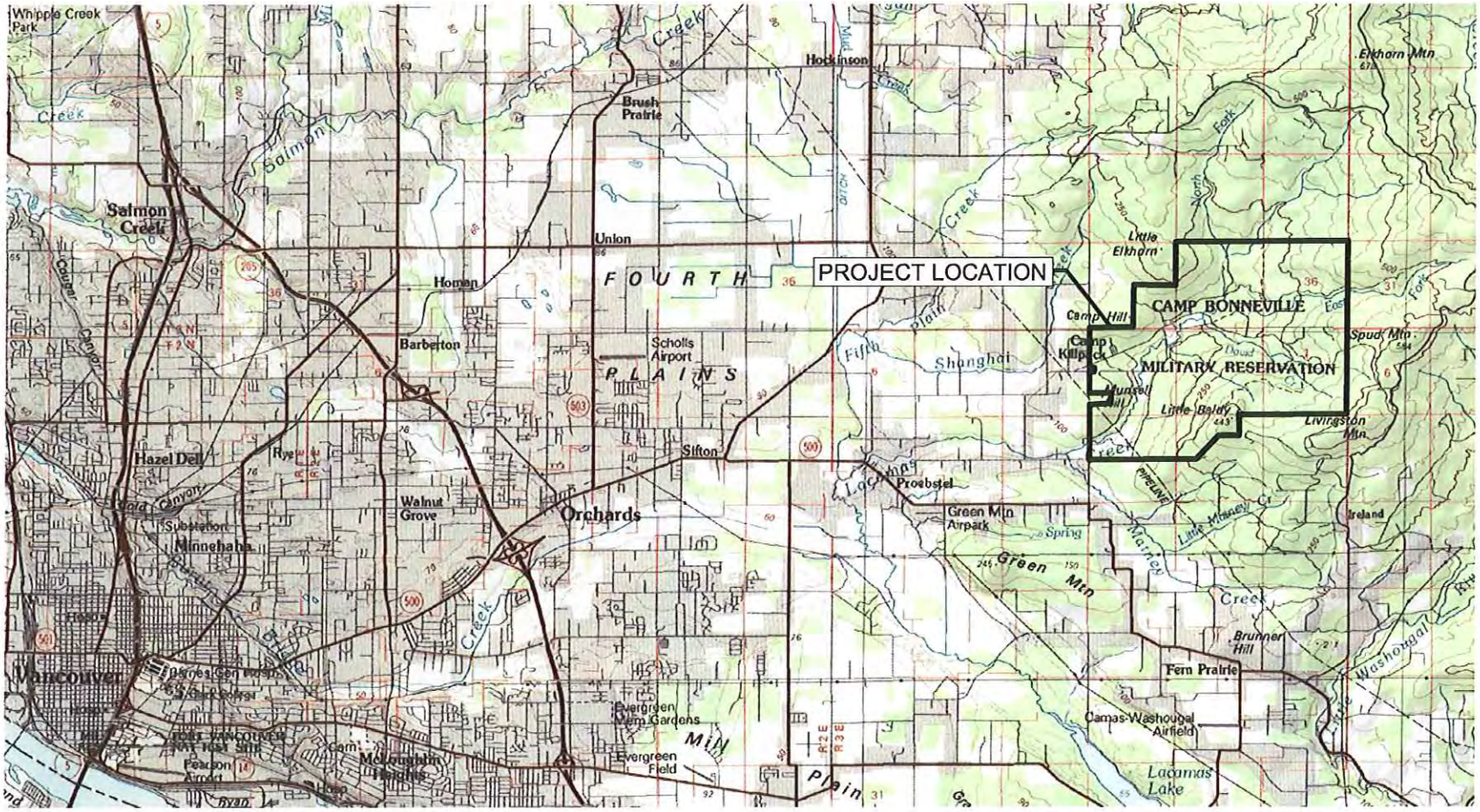
WDOE (Washington State Department of Ecology), Toxics Cleanup Program. (2001). The Model Toxics Control Act Cleanup (MTCA) Regulation. Chapter 173-340 WAC: Olympia, Washington, WDOE Publication No. 94-06. Amended February 12, 2001.

FIGURES



WASHINGTON

PBS

Project #: 70489.000
Task #: 6209
Date: JAN. 2008

0 1.5 MILE 3 MILE 6 MILE

SITE LOCATION MAP

CAMP BONNEVILLE
CLARK COUNTY, WASHINGTON

FIGURE 1

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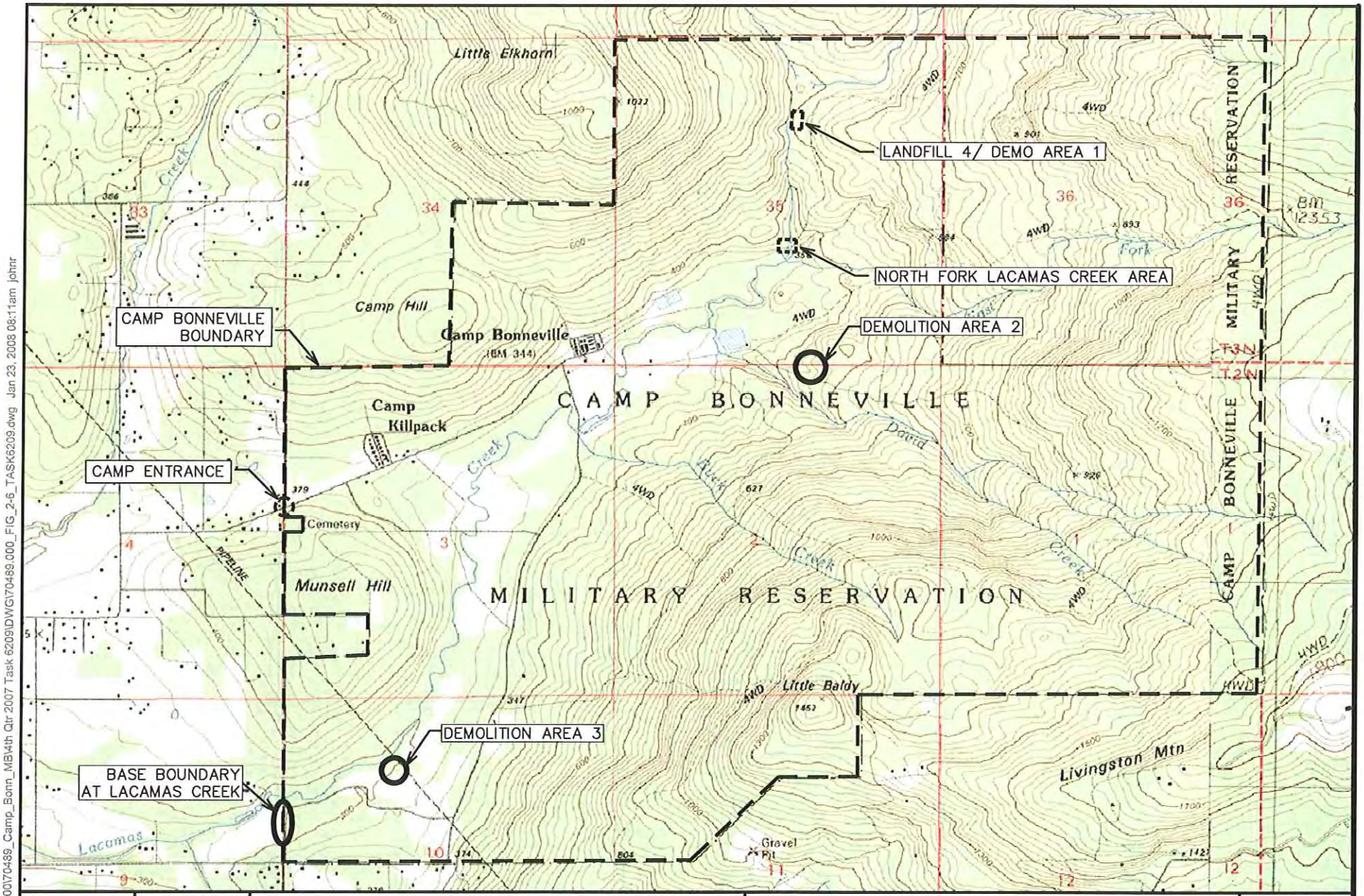

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PBS

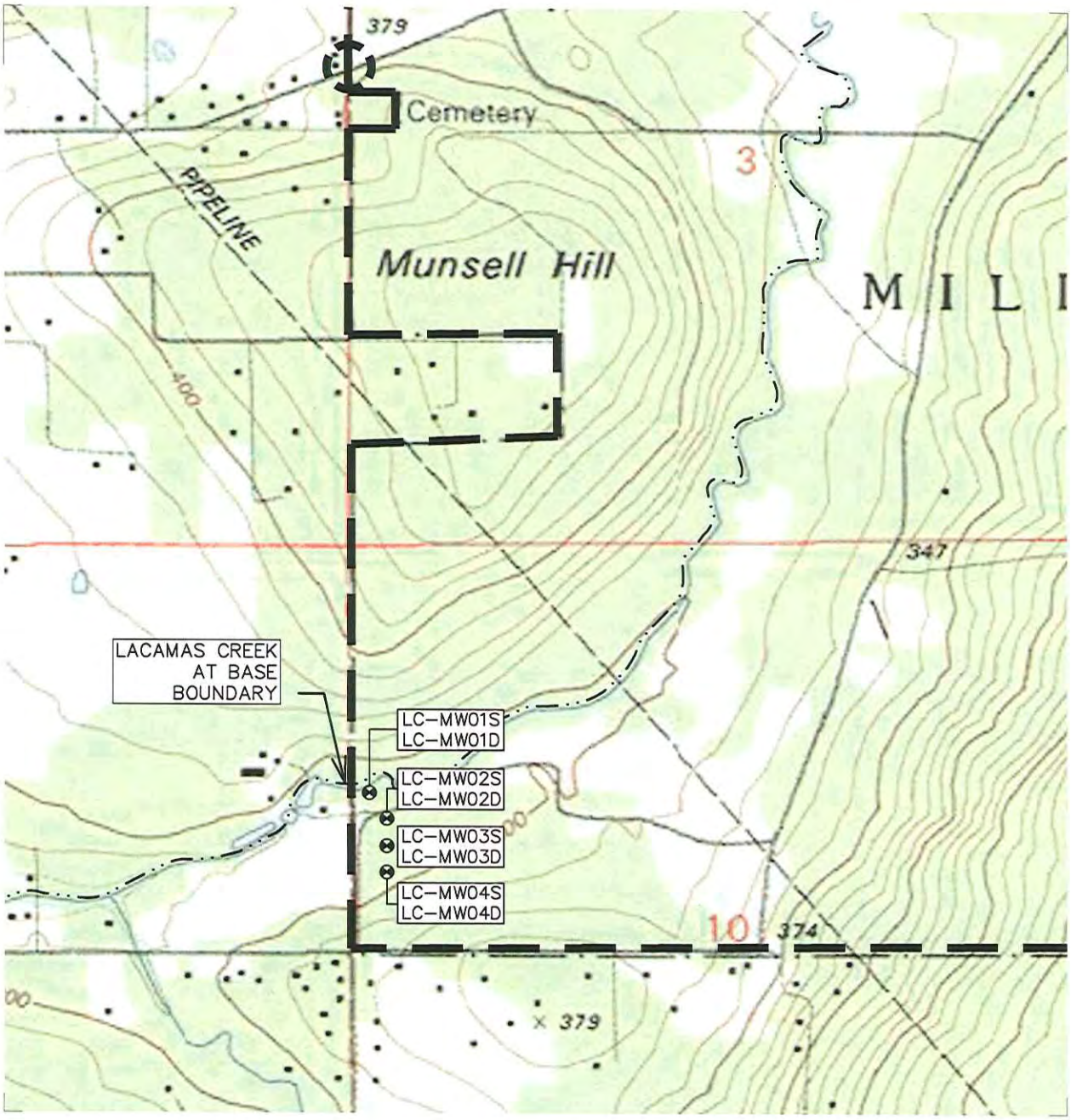
Project #: 70489.000
Task #: 6209
Date: JAN. 2008

0 1/8 MILE 1/4 MILE 1/2 MILE 1 MILE

INVESTIGATION AREAS WITHIN CAMP BONNEVILLE BOUNDARY

CAMP BONNEVILLE
CLARK COUNTY, WASHINGTON

FIGURE 2



LEGEND

LC–MW04S LC–MW04D	MONITORING WELL AND WELL NUMBER
	LACAMAS CREEK
	BASE BOUNDARY

0 1/8 MILE 1/4 MILE 1/2 MILE

PBS

Project #: 70489.000
Task #: 6209
Date: JAN. 2008

MONITORING WELL LOCATIONS NEAR BASE BOUNDARY AT LACAMAS CREEK

CAMP BONNEVILLE
CLARK COUNTY, WASHINGTON

FIGURE 3

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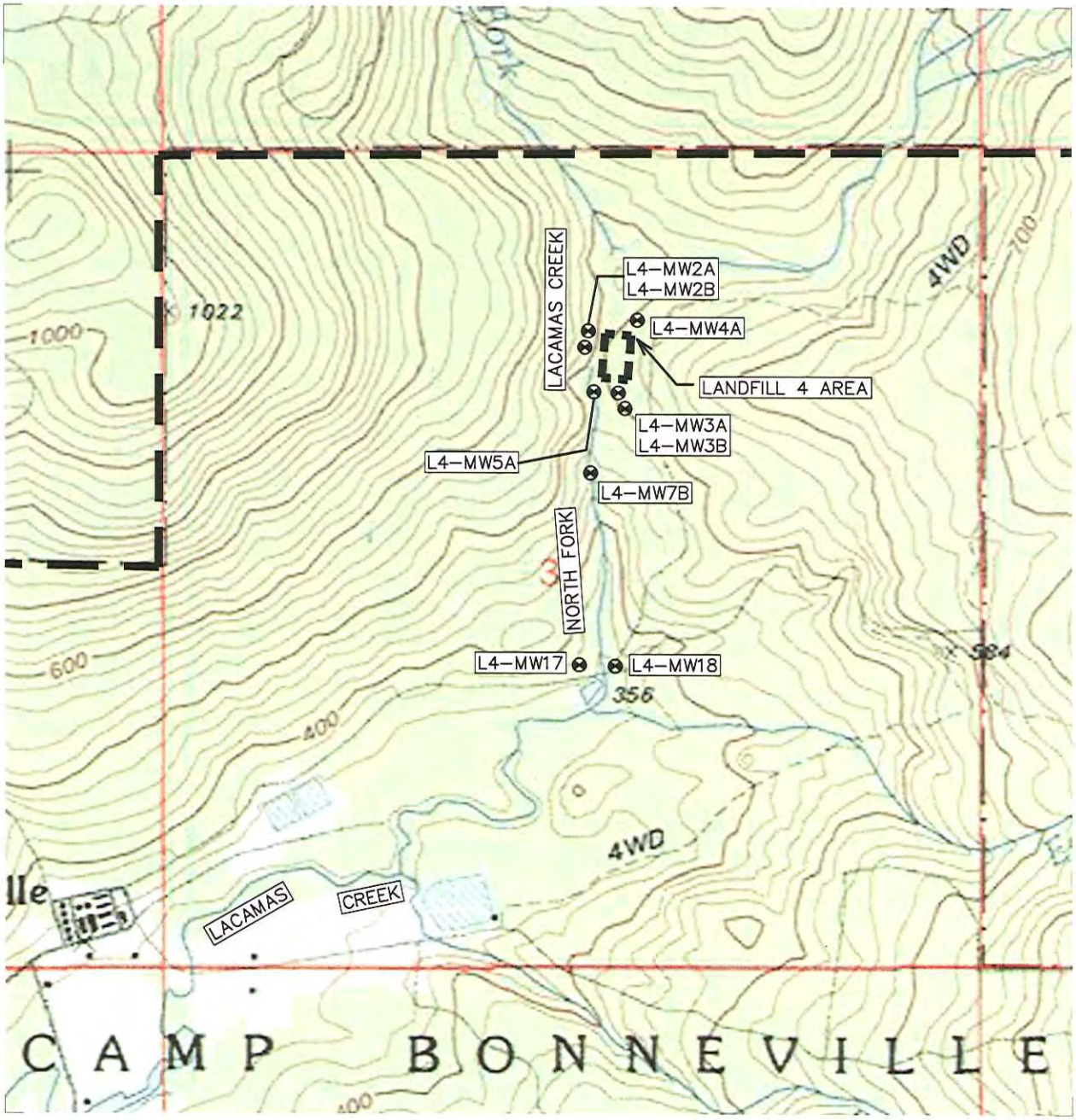

LEGEND

LC–MW2A / LC–MW2B — MONITORING WELL AND WELL NUMBER

BASE BOUNDARY

0 1/8 MILE 1/4 MILE 1/2 MILE

PBS	Project #: 70489.000 Task #: 6209 Date: JAN. 2008	MONITORING WELL LOCATIONS NEAR LANDFILL 4/DEMO AREA 1 LANDFILL 4 - LACAMAS CREEK CLARK COUNTY, WASHINGTON	FIGURE 4

TABLES

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	LCMW01D 03/23/2009	LCMW01S 03/23/2009	LCMW02D 03/23/2009	LCMW02S 03/23/2009	LCMW03D 03/23/2009	LCMW03S 03/23/2009	LCMW04D 03/23/2009	LCMW04S 03/23/2009	LCMW04S (Dup) 03/23/2009	RPD (<20%)	L4MW017 03/24/2009
Explosives (ug/L)												
HMX	1800**	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4
RDX	0.8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	acceptable	< 0.2
Nitroglycerin		< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	acceptable	< 3
PETN		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	acceptable	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4
Perchlorate	11	< 1	< 1	< 1	< 1	< 1	< 2	< 1	<10 J***	< 10	acceptable	< 1
VOCs (ug/L)												
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
1,1-Dichloroethene		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	acceptable	< 5

* Federal and State Groundwater Maximum Contaminant Level

** EPA Region 6 Human Health Screening levels

All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Analyte not detected. MRL estimated due to blank contamination and matrix interference.

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	L4MW018 03/24/2009	L4MW01A 03/24/2009	L4MW01A (dup) 03/24/2009	RPD (<20%)	L4MW01B 03/24/2009	L4MW02A 03/25/2009	L4MW02B 03/25/2009	L4MW03A 03/25/2009	L4MW03B 03/25/2009	L4MW04A 03/24/2009	L4MW05A 03/24/2009	L4MW07B 03/24/2009
Explosives (ug/L)													
HMX	1800**	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	3.4	3.3	0.52	< 0.4	< 0.4	0.19 J	< 0.4
RDX	0.8	< 0.2	0.22	0.12 J	acceptable	< 0.2	**16**	**74**	**9.3**	**4.2**	**2.6**	**3.6**	< 0.2
Nitroglycerin		< 3	< 3	< 3	acceptable	< 3	< 3	< 15	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	acceptable	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate	11	< 1	6 J	7.8 J	26.09%	1.2	**190**	**450**	**83**	**39**	**32**	**39**	2.2
VOCs (ug/L)													
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	acceptable	< 1	< 1	23.2	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	acceptable	< 1	< 1	19.4	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene		< 1	< 1	< 1	acceptable	< 1	< 1	6.71	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	acceptable	< 5	< 5	26.1	< 5	< 5	< 5	< 5	< 5

* Federal and State Groundwater Maximum Contaminant Level

** EPA Region 6 Human Health Screening levels All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Analyte not detected. MRL estimated due to blank cc

NOTES

ug/L = micrograms per liter

< 5 = not detected above the indicated method detection limit.

J = estimated. Value fails the RPD of 20% or reported value is between MRL and MDL.

RPD = relative percent different

Table 3
Field Parameters for Groundwater Samples
1st Quarter 2009
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Dissolved Oxygen	pH	Oxydation Reduction Potential	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	mg/l	S.U.	Millivolts	NTU
22L4MW01AW	03/24/2009	16.52	514.88	9.89	40	6.46	5.9	307.3	0.07
22L4MW01BW	03/24/2009	13.13	516.44	9.83	25	8.71	5.93	305.6	0.05
22L4MW02AW	03/25/2009	25.67	494.26	10.38	36	7.1	5.6	250	0.28
22L4MW02BW	03/25/2009	31.31	487.15	9.76	60	1.06	6.3	-15.4	0.33
22L4MW03AW	03/25/2009	28.97	485.88	9.94	22	6.88	5.68	259.3	0.95
22L4MW03BW	03/25/2009	27.13	484.34	9.46	48	5.72	6.15	257.4	1.98
22L4MW04AW	03/24/2009	27.34	484.45	9.62	17	6.2	5.77	311.1	0.47
22L4MW05AW	03/24/2009	23.59	486.32	9.39	27	6.13	5.88	302.7	0.01
22L4MW07BW	03/24/2009	39.33	441.47	9.11	33	6.13	6.14	278.3	0.01
22L4MW17W	03/24/2009	10.22	351.26	8.57	226	4.43	7.36	75.8	1.05
22L4MW18W	03/24/2009	11.22	351.62	9.87	129	7.6	6.71	223.7	2.07
22LCMW01SW	03/23/2009	4.80	285.36	9.37	85	7.77	6.98	256.7	0.16
22LCMW01DW	03/23/2009	5.12	285.13	9.97	90	8.28	6.97	248.6	0.15
22LCMW02SW	03/23/2009	5.15	286.04	9.93	89	7.81	6.92	248.6	0.08
22LCMW02DW	03/23/2009	5.64	285.95	10.4	91	8.4	7	250	0.12
22LCMW03SW	03/23/2009	4.50	286.41	9.73	86	8.55	6.92	246.1	0.01
22LCMW03DW	03/23/2009	4.73	286.25	10.25	93	8.42	6.93	241.8	0.18
22LCMW04SW	03/23/2009	4.48	287.15	8.24	89	5.96	6.63	251	0.01
22LCMW04DW	03/23/2009	5.10	286.69	9.67	100	8.61	7.07	245.6	0.23

* depth in feet measured from top of well PVC casing.

** water level in feet above mean sea level, relative to top of PVC casing elevation survey

Field parameters were measured using a YSI 556 and a flow through cell, with the exception of turbidity, which was measured using a HF Scientific TPW Meter.

Table 4
Well Number and Construction Details
Camp Bonneville, Vancouver, Washington

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.8	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	L4MW018 03/24/2009	L4MW01A 03/24/2009	L4MW01A (dup) 03/24/2009	RPD (<20%)	L4MW01B 03/24/2009	L4MW02A 03/25/2009	L4MW02B 03/25/2009	L4MW03A 03/25/2009	L4MW03B 03/25/2009	L4MW04A 03/24/2009	L4MW05A 03/24/2009	L4MW07B 03/24/2009
Explosives (ug/L)													
HMX	1800**	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	3.4	3.3	0.52	< 0.4	< 0.4	0.19 J	< 0.4
RDX	0.8	< 0.2	0.22	0.12 J	acceptable	< 0.2	**16**	**74**	**9.3**	**4.2**	**2.6**	**3.6**	< 0.2
Nitroglycerin		< 3	< 3	< 3	acceptable	< 3	< 3	< 15	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	acceptable	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate	11	< 1	6 J	7.8 J	26.09%	1.2	**190**	**450**	**83**	**39**	**32**	**39**	2.2
VOCs (ug/L)													
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	acceptable	< 1	< 1	23.2	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	acceptable	< 1	< 1	19.4	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene		< 1	< 1	< 1	acceptable	< 1	< 1	6.71	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	acceptable	< 5	< 5	26.1	< 5	< 5	< 5	< 5	< 5

* Federal and State Groundwater Maximum Contaminant Level

** Region 6 Human Health Screening levels

All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Descrepancy with perchlorate discussed ir

NOTES

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22LCMW04SW	03/23/2009	4.48	287.15	8.24	89	5.96	6.63	251	0.01
22LCMW04DW	03/23/2009	5.10	286.69	9.67	100	8.61	7.07	245.6	0.23

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LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
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L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.8	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

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* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
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N/A = not available

APPENDIX A

TestAmerica, Analytical Reports
ECTCON, Validation Report SDG#: D9C250313
(Separate electronic files included on enclosed CD)

APPENDIX B

Database
(Included on enclosed CD)

APPENDIX C

List of Acronyms and Abbreviations

LIST OF ACRONYMS AND ABBREVIATIONS

Army	U.S. Army
bgs	Below Ground Surface
BRAC	Base Realignment and Closure
CHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
COC	Chain-of-Custody
COPC	Chemical of Potential Concern
CWM	Clear Wide Mouth
DI	Deionized Water
DNR	State of Washington Department of Natural Resources
DOC	Dissolved Organic Carbon
DQO	Data Quality Objectives
EDF	Electronic Data Format
EO	Exploded Ordnance
EOD	Explosive Ordnance Disposal
EPA	U.S. Environmental Protection Agency
FBI	Federal Bureau of Investigation
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HE	High Explosive
HMX	octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
IC	Ion chromatography
ICP	Inductively coupled plasma
IDW	Investigative Derived Waste
LCS	Laboratory Control Sample
LIMS	Laboratory Information Management System
LQMP	Laboratory Quality Management Plan
µg/L	micrograms per liter (approximately equal ppb)
mg/L	milligrams per liter (approximately equal ppm)
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS/MSD	Matrix Spike / Matrix Spike Duplicate
MTCA	Washington Model Toxics Control Act (Chapter 173-340 WAC)
NG	nitroglycerine
OE	ordnance and explosives
PA	picric acid
PCBs	polychlorinated biphenyls
PETN	pentaerythitol tetranitrate
ppb	parts per billion
ppm	parts per million
PQL	practical quantitation limit for laboratory test instrument
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAU	Remedial Action Unit
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine (Cyclonite)
RI	Remedial Investigation
RPD	Relative Percent Difference

SAP	Sampling and Analysis Plan
SDS	Sample Data Sheets
SI	Site Investigation
SOW	Statement of Work
SVOC	Semivolatile Organic Compound
TBD	To Be Determined
TIC	Tentatively Identified Compound
TNT	2,4,6-trinitrotoluene
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSD	Treatment, Storage, and Disposal
TSS	Total Suspended Solids
USACE	United States Army Corps of Engineers
US	United States
USEPA	United States Environmental Protection Agency
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WDOE	State of Washington Department of Ecology

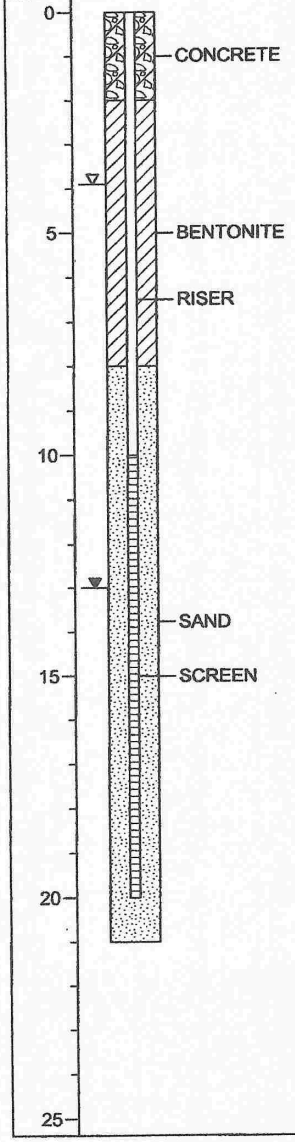
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-01S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling, Inc
Start Date	: 11/12/02	Drillers	: Todd Mecham
End Date	: 11/12/02		: Rowan Miller
Start Time	: 0830		
Weather	: Raining		

Well: LC-MW-01S
Elev.: 287.16



Depth in	DESCRIPTION	REMARKS
0	DARK YELLOWISH BROWN SILTY CLAY WITH GRAVEL	WET- LOTS OF RAIN INTO HOLE FOR 2 DAYS
10	SLIGHTLY SILTY GRAVEL- YELLOWISH BROWN SLIGHTLY SANDY SILTY GRAVEL- MIXED GRAVEL, PULVERIZED	
15	GRAY SILTY PULVERIZED RED GRAVEL WITH SOME SAND (5%)	WET
20	BOTTOM OF HOLE 21'	

BORING AND WELL CONSTRUCTION INFORMATION

BOREHOLE DEPTH : 21'
BORE DIAMETER : 7"

WELL LOCATION: NORTH BOUNDARY WELL BY LACAMAS CREEK

DRILLING METHOD: TRI-CONE ROLLER BIT ADVANCED THRU 7" CASING

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED

HEIGHT OF CASING ABOVE GROUND 3'

MONUMENT NO. AHA-359

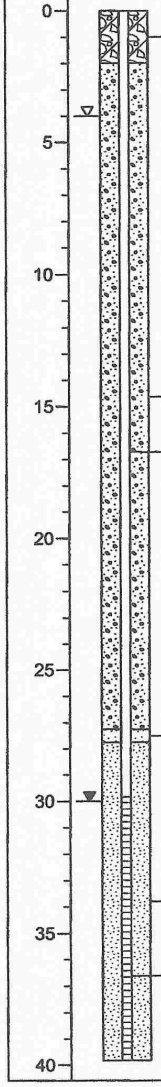
ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

LOG OF BORING LC-MW-01D

CAMP BONNEVILLE, WA
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/9/02	Drillers	: Todd Mecham
End Date	: 11/10/02		: Rowan Miller
Start Time	: 1230		: David Gose
Weather	: Overcast, Showers, Some Sun		

Well: LC-MW-01D
Elev.: 287.58



Depth in	DESCRIPTION	REMARKS
0	DARK YELLOWISH-BROWN SILTY CLAY WITH 50% GRAVEL-FINE TO MEDIUM SOME PULVERIZED	MOIST
5	VERY DARK BROWN CLAYEY GRAVEL- 90% GRAVEL, SOME SILT POSSIBLE GRAVEL UP TO 1" SIZE, PULVERIZED	MOIST
	GRAVEL HAS CHERT, MORE OF THE SOLID GRAY GRAVEL. PULVERIZED WITH OLIVE-BROWN SILT COATING	BECOMING DRIER AT 8' 40 BLOWS/FT 10'-12' VERY LOOSE ZONE 2 BLOWS/2FT
10	DARK GRAY SILTY SANDY MEDIUM GRAVEL AND COBBLES-BACK TO OLIVE-BROWN AT 12'	MOIST, PROBABLE WATER TABLE AT 12'-14' CHECK FOR WATER AT 15'. POSSIBLE MOISTURE. 1st MATERIAL IS WET. DRILLING TO 35' AND LET SIT OVERNIGHT
15		
20		
25		VERY WET 4-6 BLOWS/FT MOIST TO WET 14 BLOWS/FT
30	CLEAN PULVERIZED GRAVEL MOSTLY CHERT	WET
	FINE SANDY SILTY GRAYISH BROWN GRAVEL	STOP AT 35' LET SIT OVER NIGHT 11/10/02 0730 WATER AT 5' BGS. 0800 START BLOW 10 GAL. OF WATER OUT. STOP HERE TO AVOID GETTING EQUIPMENT PLUGGED SO WE DON'T HAVE TO INJECT WATER.
35	CLEAN GRAY GRAVEL WITH SOME SILT AND VERY FINE SAND	
	38' LIGHT OLIVE YELLOW SILT, VERY SLIGHT CLAY. POSSIBLE CONFINING ZONE OR TOP OF BEDROCK.	
40	BOTTOM OF HOLE 39.83'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 39'10"
Bore Diameter : 7"

WELL LOCATION: NORTH WELL LOCATION ALONG LACAMAS CREEK BOUNDARY.

DRILLING METHOD: ROLLER CONE BIT ADVANCED THROUGH 7" CASING.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 2.67'

MONUMENT NO. AHA-358

USED FORMATION WATER TO HYDRATE BENTONITE.

ONE CENTRALIZER PLACED ABOVE WELL SCREEN.

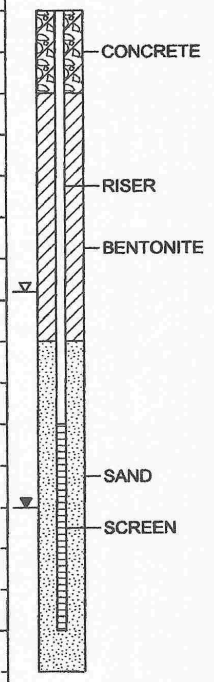
ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

LOG OF BORING LC-MW-02S

CAMP BONNEVILLE, WA.
38-EH-004M-03

GEOLOGIST	: Mary Grez	DRILLING COMPANY	: Cascade Drilling Inc.
START DATE	: 11/12/02	DRILLERS	: Todd Mecham
END DATE	: 11/12/02		: Rowan Miller
START TIME	: 1640		: Andre Bedrik
WEATHER	: Overcast, Some Sun		

Well: LC-MW-02S
Elev.: 288.49



Depth in	DESCRIPTION	REMARKS
0	REDDISH BROWN SLIGHTLY SANDY CLAYEY SILT WITH SOME GRAVEL	
10	LIGHT REDDISH BROWN CLAYEY SILT, LITTLE BIT OF GRAVEL AT 9'	WET AT 12 FEET
15	OLIVE BROWN SANDY SILTY GRAVEL	
	BOTTOM OF HOLE 16'	

BORING AND WELL CONSTRUCTION INFORMATION

BORE DEPTH : 16'
BORE DIAMETER : 7"

WELL LOCATION: 2ND WELL SITE SOUTH OF LACAMAS CREEK ALONG BOUNDARY.

DRILLING METHOD: TRI-CONE ROLLER BIT ADVANCED THRU 7" CASING

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 2.7'

MONUMENT NO. AHA- 364

FORMATION WATER USED TO HYDRATE BENTONITE.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

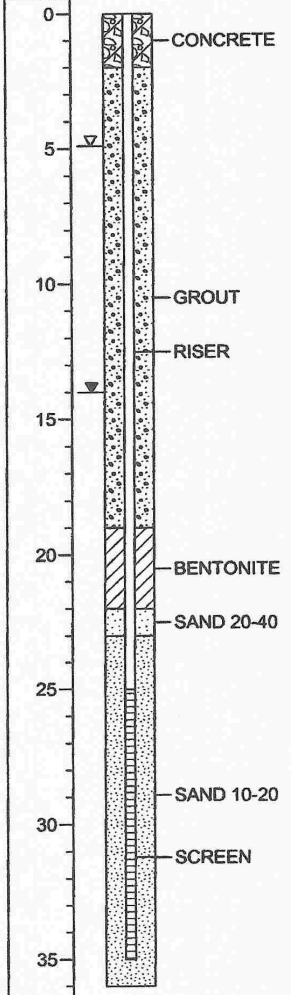
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-02D

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/12/02	Drillers	: Todd Mecham
End Date	: 11/12/02		: Rowan Miller
Start Time	: 1300		: David Gose
Weather	: Overcast, Raining		

Well: LC-MW-02D
Elev.: 288.49



Depth in	DESCRIPTION	REMARKS
0	REDDISH-BROWN SLIGHTLY SILTY SAND, SOME GRAVEL	PUMPING WATER INTO HOLE AT 3'
10		10 BLOWS/FT DONE PUMPING WATER USED ABOUT 40 GAL.
15	GRAVELLY REDDISH-BROWN SANDY SILTY GRAVEL. (PULVERIZED GRAY GRAVEL) GRADUALLY LESS SILT AND SAND, CLEANER GRAVEL	WET
20	OLIVE-BROWN SLIGHTLY SANDY SILTY GRAVEL, (ROUNDED PEBBLES AND PULVERIZED ROCK)	WATER BLEW OUT OF HOLE.
25	OLIVE-BROWN SLIGHTLY SILTY GRAVEL.(PULVERIZED GRAY ROCK). SOME VERY CLEAN GRAVEL LAYERS INTERSPERSED WITH SILT, SAND, AND GRAVEL LAYERS	PRODUCTIVE ZONE. WATER COMING UP OUT OF HOLE.
35	BOTTOM OF HOLE 36'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 36'
Bore Diameter : 7"

WELL LOCATION: 2ND WELL LOCATION SOUTH OF LACAMAS CREEK ALONG BOUNDARY.

DRILLING METHOD: TRI-CONE BIT ADVANCED THROUGH 7" CASING

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 3.1'

MONUMENT NO. AHA-357

HOLE HAND-AUGERED TO 6', NO WATER IN 6' BOREHOLE.

NO CENTRALIZERS USED.

SCREENED 25' TO 35' BECAUSE IT'S A PRODUCTIVE ZONE.

USED FORMATION WATER TO HYDRATE BENTONITE.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

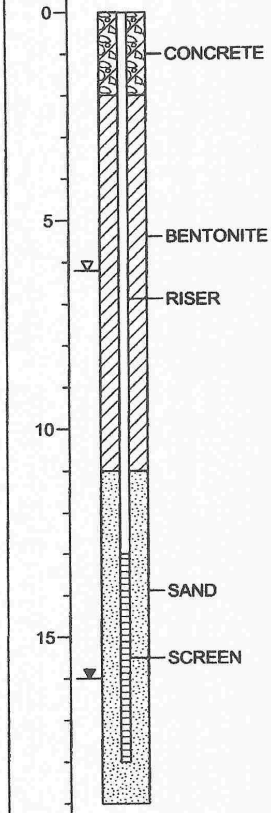
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-03S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/13/02	Drillers	: Todd Mecham
End Date	: 11/13/02		: Rowan Miller
Start Time	: 1400		: Andre Bedrik
Weather	: Rainy, Overcast		

Well: LC-MW-03S
Elev.: 288.56



Depth in	DESCRIPTION	REMARKS
0	REDDISH BROWN SLIGHTLY SANDY SILT WITH GRAVEL. UP TO 80% GRAVEL AND SMALL AMOUNT OF CLAY	VERY MOIST AT 7-8'
10	REDDISH BROWN SANDY CLAYEY SILT, VERY LITTLE GRAVEL.	WET GRAVEL
15	REDDISH BROWN, SANDY SILT, GRAY PULVERIZED GRAVEL	WATER IN HOLE
20	BOTTOM OF HOLE 19'	
25		

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 19'
Bore Diameter : 7"

WELL LOCATION: 3RD WELL LOCATION SOUTH OF LACAMAS CREEK ALONG BOUNDARY

DRILLING METHOD: TRI-CONE ROLLER BIT ADVANCED THRU 7" CASING

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 2.35'

MONUMENT NO. AHA -362

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

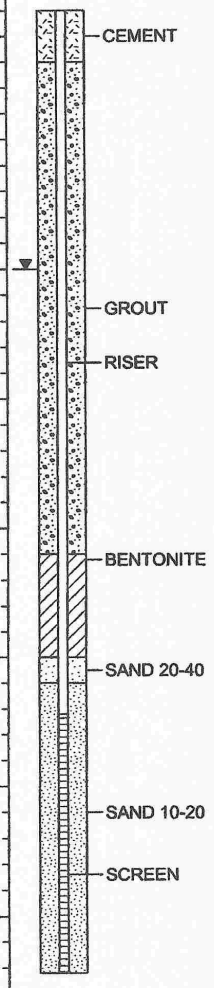
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-03D

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/13/02	Drillers	: Todd Mecham
End Date	: 11/14/02		: Rowan Miller
Start Time	: 1600		: Andre Bednik
Weather	: Overcast, Rainy		

Well: LC-MW-03D
Elev.: 288.50



Depth in	DESCRIPTION	REMARKS
0	REDDISH-BROWN SANDY SILT WITH GRAVEL	DRY 9-10 BLOWS/FT
10	OLIVE-BROWN SLIGHTLY SANDY SILT WITH SOME GRAVEL	MOIST VERY SOFT ZONE, WET
15	OLIVE-BROWN SLIGHTLY SANDY SILTY MIXED GRAVEL. SOME ZONES MOSTLY SILT, SOME MORE GRAVEL.	WATER COMING UP
20	MOSTLY GRAY PULVERIZED GRAVEL WITH SILT, SOME SAND.	EASY CASING PENETRATION
25	GRAYISH-BROWN CLAYEY SILT	
35	BOTTOM OF HOLE 37.17'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 37' 2"
Bore Diameter : 7"

WELL LOCATION: 3RD WELL LOCATION SOUTH OF LACAMAS CREEK BOUNDARY LOCATION.

DRILLING METHOD: TRI-CONE BIT ADVANCED THROUGH 7" CASING.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

HEIGHT OF CASING ABOVE GROUND 2.48'

MONUMENT NO. AHA-363

BOREHOLE HAND-AUGERED TO 6'.

LEFT CASING IN GROUND OVERNIGHT AT 37'. ENCOUNTERED SILT AND STOPPED 2' SHORT OF GOAL DEPTH TO AVOID INJECTING POTABLE WATER INTO HOLE.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

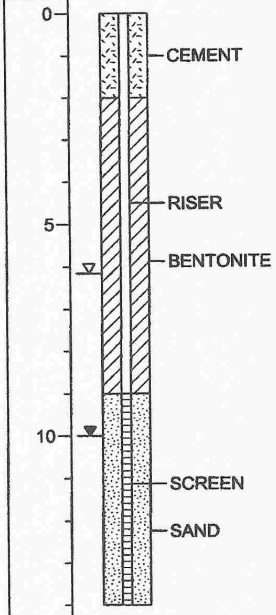
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-04S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/17/02	Drillers	: Matt Ross
End Date	: 11/17/02		: Jesse Cannon
Start Time	: 0815		: Matt Slobig
Weather	: Overcast, Passing Rain		

Well: LC-MW-04S
Elev.: 288.83



Depth in	DESCRIPTION	REMARKS
0	DARK BROWN GRAVELLY SILT, SOME CLAY AND SAND.	MOIST AT 5'
10	GRAYISH BROWN SILTY GRAVEL (UP TO 2" ROUND GRAVEL) WITH SOME SAND AND CLAY.	VERY HARD DRILLING BECAUSE OF GRAVEL AT 10'. WET AT 10' FINISHED HOLE AT 14' BECAUSE OF VERY HARD DRILLING WITH AUGER
14	BOTTOM OF HOLE 14'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 14'
Bore Diameter : 6"

WELL LOCATION: SOUTH WELL LOCATION FROM LACAMAS CREEK ALONG BOUNDARY.

DRILLING METHOD: CME 580 WITH 6" AUGER AND WOOD PLUG

HAND AUGER TO 5'

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED

HEIGHT OF CASING ABOVE GROUND 2.8'

MONUMENT NO. AHA-375

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

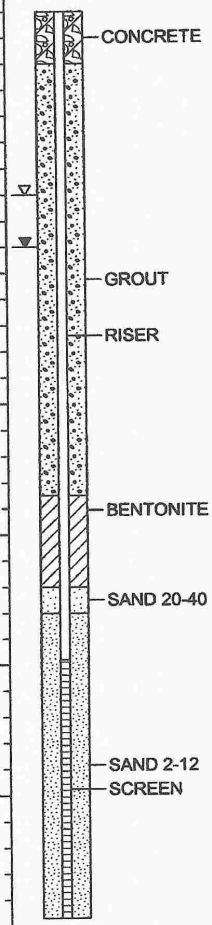
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-04D

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/13/02	Drillers	: Todd Mecham
End Date	: 11/13/02		: Rowan Miller
Start Time	: 0915		: Andre Bednik
Weather	: Rainy		

Well: LC-MW-04D
Elev.: 289.16



Depth in	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0	REDDISH-BROWN SLIGHTLY SANDY SILTY, MULTICOLORED GRAVEL.	PUSH CASING TO 6' AND USED POTABLE WATER TO CLEAN HOSES. STOPPED RUNNING WATER AT 7'. HARD DRILLING THROUGH GRAVEL, VERY WET AT 9'. WATER IN HOLE	Bore Hole Depth : 34' 8" Bore Diameter : 7"
10	OLIVE-BROWN SANDY SILTY PULVERIZED GRAY AND MULTICOLOR GRAVEL.	WET TO BOTTOM OF HOLE.	WELL LOCATION: SOUTH WELL PAIR FROM LACAMAS CREEK ALONG BOUNDARY. DRILLING METHOD: TRI-CONE BIT ADVANCED THROUGH 7" CASING. WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED. HEIGHT OF CASING ABOVE GROUND 2.63' MONUMENT NO. AHA-361 STOPPED DRILLING AT 34' BECAUSE SILT WOULD PLUG HOSES. ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.
15	OLIVE-BROWN SANDY SILTY UNIFORM GRAY GRAVEL. CLEAN GRAVEL ZONE AT 17'-18' ALTERNATE CLEAN GRAVEL ZONES WITH SANDY SILT AND FINE GRAVEL TO B.O.H.		
20			
25			
30			
35	OLIVE-BROWN SILT AND SANDY SILT AT 34.67'		
40	BOTTOM OF HOLE 34.67'		

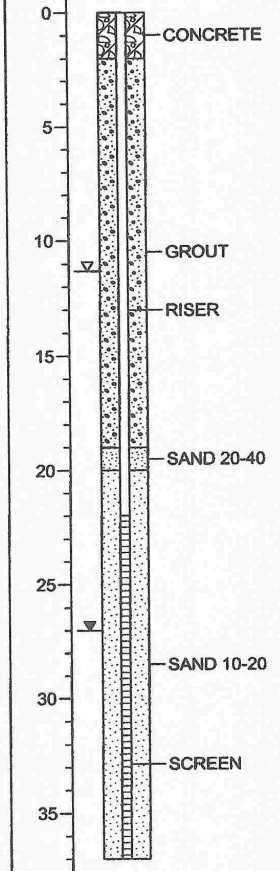
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-05S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/15/02	Drillers	: Matt Ross
End Date	: 11/15/02		: Jesse Cannon
Start Time	: 1140		: Matt Slobig
Weather	: Sunny, Slightly Cloudy		

Well: LC-MW-05S
Elev.: 306.40



Depth in	DESCRIPTION	REMARKS
0	VERY MOIST SLIGHTLY SANDY SILT. REDDISH BROWN SLIGHTLY SANDY SILT, BIT OF CLAY AND FINE GRAVEL	LC-MW-05S-10 LC-MW-05S-0 1140 10 BLOWS/ 6" MOIST AT 3'
5	DARK RED BROWN SILT WITH MOTTLES OF GRAY, VEINS OF RED, GRAY, AND PURPLE IN SPLITSPOON	LC-MW-05-2 1200 LC-MW-05S-5 1210 16 BLOWS/ 6"
10		GETTING VERY MOIST AT 13'-14'
15	BRIGHT BLUE-GRAY STIFF SILT	LC-MW-05S-15 1230
20	YELLOWISH-BROWN SLIGHTLY CLAYEY SILT WITH VARIABLE AMOUNTS OF GRAVEL AND INCREASING CLAY WITH DEPTH	STILL MOIST, NOT WET
25	CLAYEY SILT	WET AT 27'
30		
35		
40		
45	BOTTOM OF HOLE 37'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 37'
Bore Diameter : 6"

WELL LOCATION: EAST SIDE OF CRATER AT DA-3 PAIRED WITH LC-MW-05D

DRILLING METHOD: CME 580 WITH HOLLOW STEM AUGER AND 140 LBS HAMMER.

SAMPLES TAKEN WITH SPLIT SPOON SAMPLED AT 0', 2', 5', 15' DEPTHS SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE, AND TOTAL METALS. HAMMER USED TO COLLECT SAMPLES.

DUPLICATE LC-MW-05S-10 COLLECTED FROM LC-MW-05S-0.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 3.7'

MONUMENT NO. AHA-374

PULLED UP 5' AT 25' AND LET SIT FOR 1 HOUR, NO WATER IN HOLE.

GREG JOHNSON, WA. DEPT. OF ECOLOGY SAID TO COMPLETE HOLE AT 37' TO BE 15' ABOVE LC-MW-05D.

TREMIED BENTONITE GROUT FROM TOP OF 20-40 SAND TO 2' BGS.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

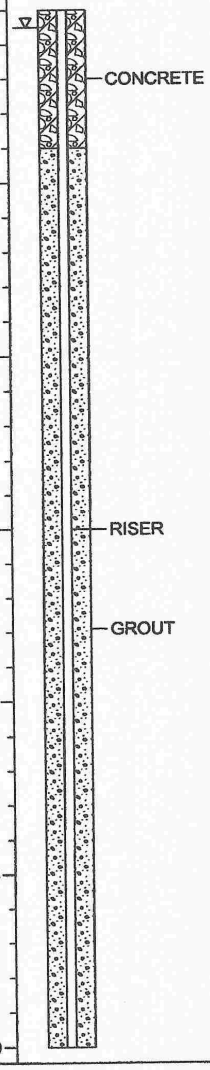
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-05D

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/7/02	Drillers	: Todd Mecham
End Date	: 11/8/02		: Rowan Miller
Start Time	: 1030		: David Gose
Weather	: Overcast, Rainy		

Well: LC-MW-05D
Elev.: 306.34



Depth in	DESCRIPTION	REMARKS
0	BROWN SLIGHTLY SANDY SILT WITH FINE GRAVEL.	DRY
	DARK BROWN SILT WITH 5% FINE GRAVEL.	SOMEWHAT MOIST
10	DARK REDDISH-BROWN SILTY CLAY WITH 25% FINE GRAVEL, ANGULAR AND 2% ROUNDED 1/2"-1" GRAVEL.	8 BLOWS/ FT MOIST (10')
	DARK REDDISH-BROWN SILTY CLAYEY GRAVEL. FINE TO 1/4" GRAVEL. ANGULAR TO ROUNDED. COARSENING WITH DEPTH.	
15	DARK YELLOWISH-BROWN SLIGHTLY SILTY CLAY WITH FINE GRAVEL.	
20	GRAYISH-BROWN SILT AND SLIGHTLY CLAYEY SILT, BARELY ANY GRAVEL.	14 BLOWS/ FT AT 20'.
25	GRAYISH-BROWN SILTY FINE TO MEDIUM GRAVEL	CHECK FOR GROUND WATER AT 24'. LET SIT FOR 20 MINUTES. NO WATER.
	FINE GRAVELY GRAYISH BROWN SILT	
30		

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 63.5'
Bore Diameter : 7"

WELL LOCATION: EAST SIDE OF DA-3 CRATER. WELL PAIR WITH LC-MW-05S

DRILLING METHOD: AIR HAMMER DRIVEN THROUGH 7" CASING.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND N/A

MONUMENT NO. AHA-360

USE POTABLE WATER AT 20' BECAUSE HOSES ARE PLUGGING WITH SILT.

USED ABOUT 20 GALLONS WITH GOOD RECOVERY.

POTABLE WATER SOURCE: CITY OF PORTLAND.

PVC CASING EXTENDED ON 2/11/03 AND NEW TOP OF CASING MARKED FOR SURVEYING.

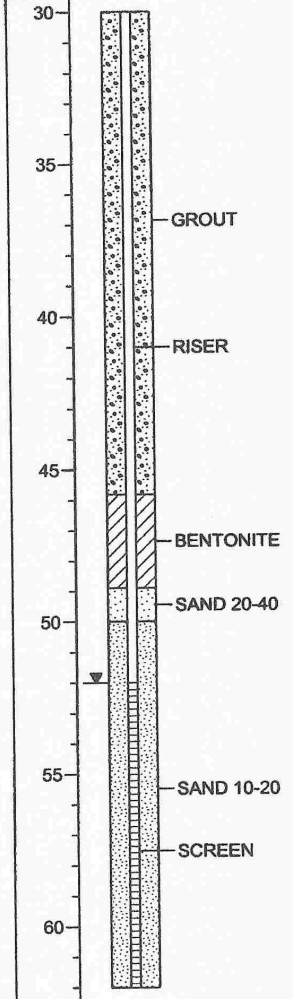
ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

LOG OF BORING LC-MW-05D

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/7/02	Drillers	: Todd Mecham
End Date	: 11/8/02		: Rowan Miller
Start Time	: 1030		: David Gose
Weather	: Overcast, Rainy		

Well: LC-MW-05D
Elev.: 306.34



Depth in	DESCRIPTION	REMARKS
	DARK YELLOWISH-BROWN SILTY CLAY AND CLAYEY SILT. VERY TIGHT.	40 BLOWS/ FT NO LONGER RUNNING WATER. SOIL IS MOIST.
	SAME WITH SOME FINE TO MEDIUM GRAVEL ANGULAR TO ROUNDED UP TO 1/2" NO GRAVEL, SAME OTHERWISE.	33 BLOWS/FT
	BROWN SLIGHTLY CLAYEY SILT.	UP TO 60 BLOWS/ FT.
	THIN DARKER BROWN LAYER.	FAINTLY MOIST
	FINE TO MEDIUM GRAVELLY BROWN SILT.	
	FINE TO MEDIUM GRAVELLY BROWN SILT, GRADING TO OLIVE BROWN SILTY FINE TO MEDIUM PULVERIZED GRAVEL. POSSIBLE TOP OF TROUTDALE.	
	DARK GRAYISH-BROWN SILTY GRAVEL/GRAVELLY SILT. GRAVEL IS PULVERIZED.	CASING PULLED TO 49' WAIT OVERNIGHT. 11/8/02 0745 START DRILLING. WATER AT 52'.
	DARK GRAYISH-BROWN TO GRAY PULVERIZED GRAVEL.	
	RED CLAY ON BOTTOM OF BIT	
	BOTTOM OF HOLE 63.5'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth	: 63.5'
Bore Diameter	: 7"

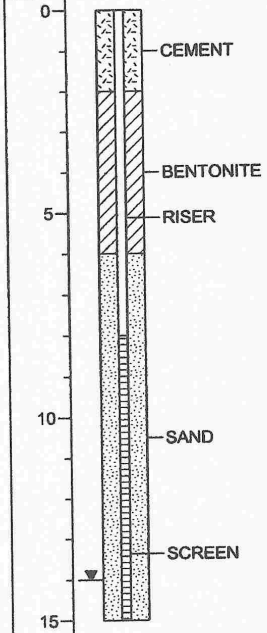
USACHPPM
Readiness from Health

LOG OF BORING LC-MW-06S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/16/02	Drillers	: Matt Ross
End Date	: 11/16/02		: Jesse Cannon
Start Time	: 1515		: Matt Slobig
Weather	: Overcast, Passing, Rain		

Well: LC-MW-06s
Elev.: 305.43



Depth in	DESCRIPTION	REMARKS
0	RED BROWN LOAMY SILT, LOTS OF ROOTS, SOME DECOMPOSED GRAVEL	LC-MW-06S-0 1515 MOIST
	PALE BROWN SILT WITH DECOMPOSED GRAVEL, RUST COLORED MOTTLES RETURNS ARE FAINTLY MOIST, RED BROWN SILT WITH DECOMPOSED GRAVEL AND ROOTS	LC-MW-06S-2 1525 DRY
5		LC-MW-06S-5 1530
10		VERY MOIST NOT WET
15	BOTTOM OF HOLE 15'	WET AT 15'
20		
25		

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 37'
Bore Diameter : 6"

WELL LOCATION: NORTH SIDE OF DA-3 CRATER.

DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND 140 LBS HAMMER BIT.

SAMPLES TAKEN WITH SPLIT SPOON SAMPLED AT 0', 2', 5', DEPTHS SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE, AND METALS.

COULD NOT COLLECT 15' SAMPLE BECAUSE OF SATURATED CONDITIONS

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PV

HEIGHT OF CASING ABOVE GROUND 2.84'

MONUMENT NO. AHA-372

USED FORMATION WATER TO HYDRATE BENTONITE

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

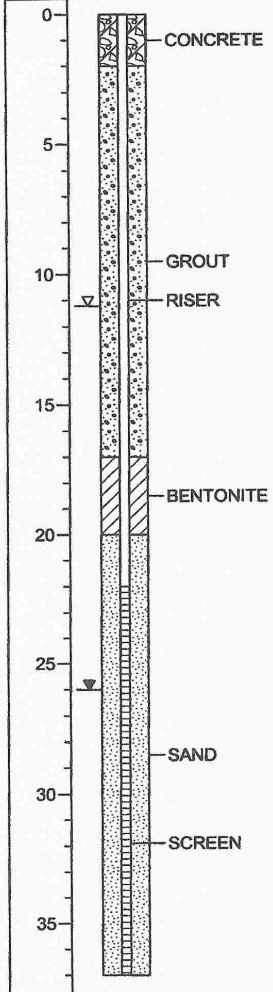
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-07S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/16/02	Drillers	: Matt Ross
End Date	: 11/16/02		: Jesse Cannon
Start Time	: 1100		: Matt Slobig
Weather	: Overcast, Passing Rains		

Well: LC-MW-07S
Elev.: 305.12



DESCRIPTION	REMARKS
PLATY RED-BROWN DRY SILT WITH SOME FINE GRAVEL	LC-MW-07S-0 1110 + DUPLICATE
DRY PALE YELLOWISH-BROWN SILT, A BIT OF FINE GRAVEL-DECOMPOSED ROCK.	LC-MW-07S-10 1140 LC-MW-07S-2 1125
RED-BROWN SILT, BARELY ANY GRAVEL	LC-MW-07S-5 1145 GETTING MOIST MOIST MOIST ZONE
GRAY STIFF SILT, LIGHT GRAYISH BROWN SILT CUTTINGS	LC-MW-07S-15 1210
OLIVE BROWN SILT. SOME CLAY AND GRAVEL	MOIST VERY MOIST TO WET
YELLOWISH-BROWN GRAVELLY SILT	
BOTTOM OF HOLE 37'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 37'
Bore Diameter : 6"

WELL LOCATION: WEST SIDE OF DA-3 CRATER.

DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND 140 LBS HAMMER.

SAMPLES TAKEN WITH SPLIT SPOON SAMPLER AT 0', 2', 5', 15' DEPTHS. SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE, AND METALS.

LC-MW-07S-10 IS A DUPLICATE OF LC-MW-07S-0

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 3.8'

MONUMENT NO. AHA-371

COULDN'T RETRACT THE HAMMER BECAUSE THE CABLE BROKE. DRILLED TO 37' AND PULLED AUGER AND HAMMER THEN INSTALLED WELL SUCCESSFULLY IN OPEN BOREHOLE.

USED FORMATION WATER TO HYDRATE BENTONITE.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

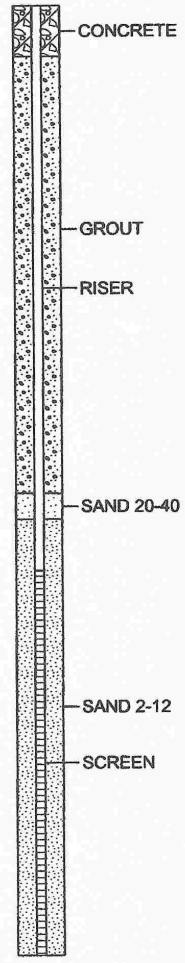
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-08S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/16/02	Drillers	: Matt Ross
End Date	: 11/16/02		: Jesse Cannon
Start Time	: 0740		: Matt Slobig
Weather	: Overcast		

Well: LC-MW-08S
Elev.: 306.10



Depth in	DESCRIPTION	REMARKS
0	BROWN SILTY LOAM LOTS OF ROOTS, SOME GRAVEL.	LC-MW-08S-0 0740 MOIST
	DRY SILTY GRAVEL, GRAYISH-BROWN DRY SILT WITH RUST COLORED MOTTLES	LC-MW-08S-2 0750 HAD TO MOVE 1' EAST BECAUSE OF ROOT
5	REDDISH-BROWN CLAYEY SILT WITH DECOMPOSED GRAVEL AND RED MOTTLES	LC-MW-08S-5 0800 FAINTLY MOIST
10		
15	STIFF GRAY SILT, BARELY MOIST	A LITTLE MORE MOIST AT 12' BECOMING WET AT 14'
	OLIVE-BROWN STIFF SILT AT 17'	LC-MW-08S-15 0815 POOR RECOVERY DROVE ANOTHER SAMPLE TO COMPOSITE FROM 15'-18'
20	MOIST REDDISH-BROWN SILT WITH VARIABLE CLAY AND FINE GRAVEL	
25		NEVER ENCOUNTERED WET ZONE WE SAW IN LC-MW-05S
30		
35	BOTTOM OF HOLE 37'	
40		

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 37'
Bore Diameter : 6"

WELL LOCATION: SOUTH SIDE OF DA-3 CRATER.

DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND 140 LBS HAMMER.

SAMPLES TAKEN WITH SPLIT SPOON SAMPLER AT 0', 2', 5', 15' DEPTHS. SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE AND METALS

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

HEIGHT OF CASING ABOVE GROUND 3.68'

MONUMENT NO. AHA-373

NO WATER LEVELS TAKEN PRIOR TO SAMPLING BECAUSE OF SEDIMENT IN WELL.

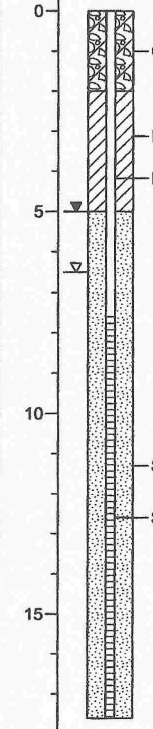
ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

LOG OF BORING LC-MW-09S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/15/02	Drillers	: Matt Ross
End Date	: 11/15/02		: Jesse Cannon
Start Time	: 0737		: Matt Slobig
Weather	: Foggy		

Well: LC-MW-09S
Elev.: 344.91



Depth in	DESCRIPTION	REMARKS
0	DARK REDDISH-BROWN SLIGHTLY GRAVELLY, SLIGHTLY CLAYEY SILT	MOIST
5	CHATTER AT 5' GRAVEL LAYER	WET AT 5'
	A LITTLE MORE GRAVEL	
10	COLOR STARTING TO CHANGE TO DARK GRAYISH-BROWN	
15		
20		
25	BOTTOM OF HOLE 17.5'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 17.6'
Bore Diameter : 6"

WELL LOCATION: SW WELL LOCATION AT DA-2 NEAR CRATER.

DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER WOODEN PLUG.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 2.4'

MONUMENT NO. AHA-369

USED 10' SCREEN BECAUSE WATER WAS ENCOUNTERED AT 5' bgs.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

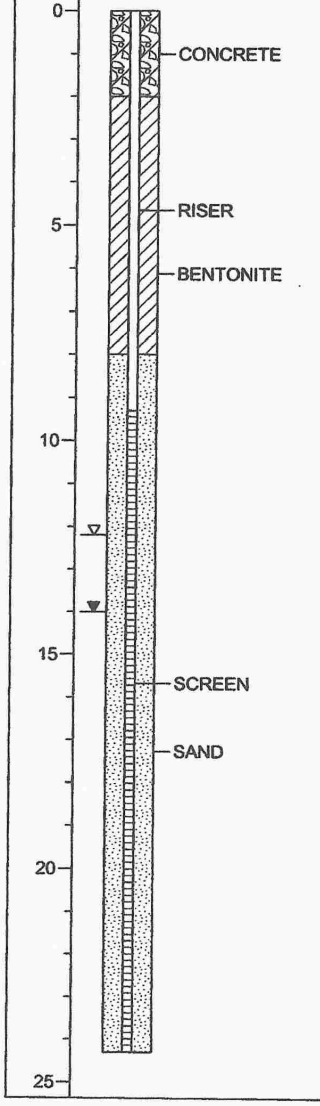
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-10S

CAMP BONNEVILLE, WA.
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/14/02	Drillers	: Matt Ross
End Date	: 11/14/02		: Jesse Cannon
Start Time	: 1530		: Matt Slobig
Weather	: Sunny, Partly Cloudy		

Well: LC-MW-10S
Elev.: 349.67



Depth in	DESCRIPTION	REMARKS
0	DARK YELLOWISH-BROWN SLIGHTLY CLAYEY SILT- NO GRAVEL	MOIST, PLASTIC
10		MORE MOIST
15	GRAYISH-BROWN TO DARK REDDISH-BROWN OR MAROON SLIGHTLY FINE GRAVELY SILT.	NO RETURN FROM 14' WATER AT 14'
25	BOTTOM OF HOLE 24.25'	

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 24'3"
Bore Diameter : 6"

WELL LOCATION: SE WELL NEAR ROAD.

DRILLING METHOD: CME 580 WITH 6' HOLLOW STEM AUGER AND WOOD PLUG.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING.
CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.

HEIGHT OF CASING ABOVE GROUND 1.8'

MONUMENT NO. AHA-370

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

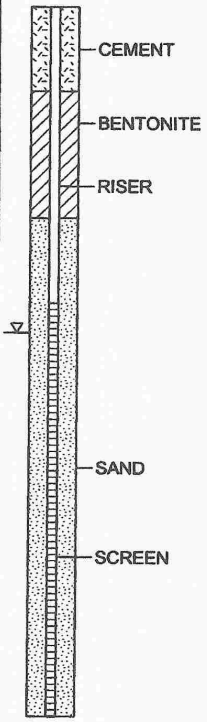
USACHPPM
Readiness thru Health

LOG OF BORING LC-MW-11S

CAMP BONNEVILLE, WA
38-EH-004M-03

Geologist	: Mary Grez	Drilling Company	: Cascade Drilling Inc.
Start Date	: 11/14/02	Drillers	: Matt Ross
End Date	: 11/14/02		: Matt Slobig
Start Time	: 1430		: Jesse Cannon
Weather	: Sunny, Partly Cloudy		

Well: LC-MW-11S
Elev.: 342.72



Depth in	DESCRIPTION	REMARKS
0	DARK YELLOWISH-BROWN SILT, SOME GRAVEL, POSSIBLE FILL MATERIAL	WATER AT GROUND SURFACE
	GRAYISH-BROWN SLIGHTLY FINE SANDY SILT CAN HEAR SOME GRAVEL IN HOLE	CHATTER AT 10'
17	BOTTOM OF HOLE 17'	WATER IN BOTTOM OF HOLE

BORING AND WELL CONSTRUCTION INFORMATION

Bore Hole Depth : 17'
Bore Diameter : 6"

WELL LOCATION: NORTH WELL AT DA-2 NE OF POND.

DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND WOOD PLUG.

WELL INNER DIAMETER: 2 INCH
WELL SLOT SIZE: 0.010 INCH
WELL SCREEN MATERIAL: PVC

WATER IS AT GROUND SURFACE IN UXO AUGER HOLE.

HEIGHT OF CASING ABOVE GROUND 3.0'

MONUMENT NO. AHA-368

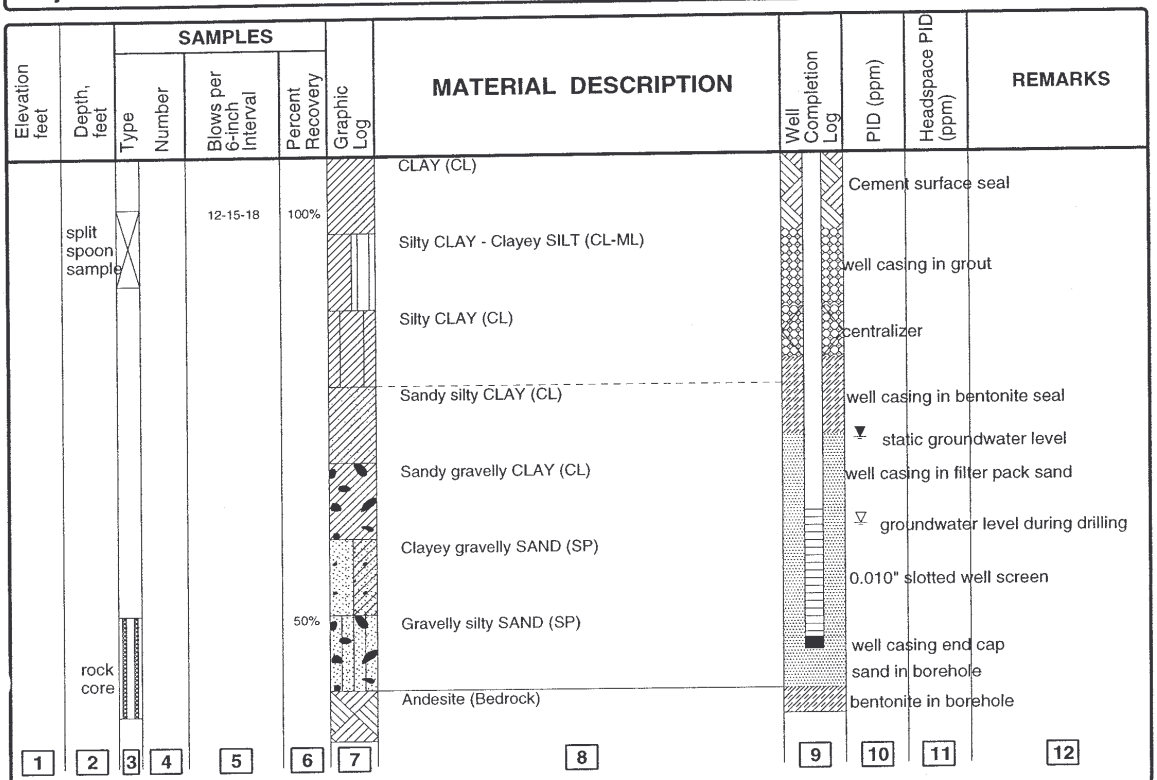
USED 10' SCREEN BECAUSE OF SHALLOW WATER TABLE.

USED FORMATION WATER TO HYDRATE BENTONITE.

ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Key to Log of Borings



COLUMN DESCRIPTIONS

1	**Elevation:**	Elevation (in feet) with respect to mean sea level or assumed datum.
2	**Depth:**	Vertical distance (in feet) below ground surface.
3	**Sample Type:**	Type of soil sample collected at depth interval depicted; symbols explained above.
4	**Sample Number:**	Sample identification number.
5	**Blows per 6 inches:**	Number of blows required to advance driven sampler each 6-inch drive interval.
6	**Percent Recovery:**	Percentage of sample recovered for given sample interval; blank if not recorded.
7	**Graphic Log:**	Graphic depiction of subsurface material encountered.
8	**Material Description:**	Description of subsurface material encountered, including USCS soil designation.
9	**Well Completion Log:**	Graphic depiction of well subsurface material.
10	**PID (ppm):**	Photoionization detector readings in parts per million (ppm) of standard gas.
11	**Headspace PID readings:**	PID readings taken of enclosed portion of soil sample at recorded depth.
12	**Remarks:**	Comments or observations pertinent to drilling/sampling.

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System (USCS) and include consistency/relative density (where standard blow count correlation is possible), moisture, and color. Field descriptions may have been modified to reflect results of laboratory tests.
2. Descriptions on these boring logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

URS

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW03A

Sheet 1 of 2

Date(s) Drilled	6/5/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	46.5
Drill Rig Type	CME-75	Sampler Type	18" Split Spoon	Surface Elevation	511.9 NGVD
Groundwater Level	28.50 feet bgs 6/5/01 1410	Hammer Weight and Drop	30" 140 lb	Top of PVC Elevation	514.9 NGVD
Diameter of Hole (inches)	8.75	Diameter of Well (inches)	2	Type of Well Casing	Pre-packed V wire mesh	Screen Perforation	0.010"
Type of Sand Pack	20/40, 10/20 Silica	Type and Depth of Seal(s)	filter sand (38'-46' bgs); bentonite (2'-38' bgs); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,413.64 Northing 141,287.41				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
510	0						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity					UXO avoidance to 8' bgs
	5						same as above					
505												
	10			7-7-7	100		same as above - increasing clay content		0	0	1150	
500												
	15			6-6-6	100		Silty CLAY (CL) - moist; light brown; soft; trace of sand		0	0	1156	
495												
	20			2-2-5	100		same as above - very soft		0	0	1206	
490												
	25			14-15-8	100		black-grey lenses of weathered sand		0	0	1227	
485												groundwater le 28.50' bgs (6/5/ 1410)
	30											

URS

Report: ENV_23A; Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB_L4.GPJ; Data Template:WC_CORP1.GDT Printed: 11/26/01

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW03A

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
480	30			4-3-4	100		Clay (CL) - very moist; soft; light brown		0	0	1250	
475	35			5-5-5	100		same as above - very soft; highly weathered sand grains; white; black; yellow-orange		0	0	1300	
470	40			3-3-4	100		Sandy silty CLAY (CL) - wet; weathered sand grains; mottled pink-white-black		0	0	1310	
465	45			11-30-42	100		same as above - wet; low plasticity; hard		0	0	1324	groundwater encountered at approx. 43' bgs (6/5/01 1320)
460	50						Boring terminated at approximately 46.5' bgs on 6/5/01 at 1330					
455	55											
450	60											
445	65											
	70											

URS

Report: EN' : Project File: I:\PROJECTS\WCFS-A--1\BONNEL--1\DELIVE--1\JOHNRI--1\BORING--1\CB_L4.GPJ; Data e:\WC_CORP1.GDT Printed: 11/26/01

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW04A

Sheet 1 of 2

Date(s) Drilled	6/4/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	54.0
Drill Rig Type	CME-75	Sampler Type	18" Split Spoon	Surface Elevation	508.8 NGVD
Groundwater Level	35 feet bgs 6/5/01 0730	Hammer Weight and Drop	30" 140 lb	Top of PVC Elevation	511.8 NGVD
Diameter of Hole (inches)	8.75 / Diameter of Well (inches) 2	Type of Well Casing	Pre-packed V wire mesh	Screen Perforation	0.010"
Type of Sand Pack	20/40, 10/20 Silica	Type and Depth of Seal(s)	bentonite (2'-30', 43'-54'); filter sand (30'-43'); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,420.93 Northing 141,521.95				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
	0						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity		0	0	0815	UXO avoidance to 8' using a backhoe
505	5						same as above					
500	10						same as above - very soft clay		0	0	0820	
495	15						Silty CLAY (CL) - moist; light brown; soft; mottled grey-black					
490	20						same as above - weathered sand grains; mottled orange with black lenses		0	0	0830	Rig down for repairs 0900 - 1130
485	25			25-20-6	100		same as above - medium stiff; trace of yellow gravel		0	0	1155	
480	30											

URS

Report: ENV_23A; Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB_L4.GPJ; Data Template:WC_CORP1.GDT Printed: 11/26/01

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW04A

Sheet 2 of 2

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
	30			6-5-6	100		Sandy silty CLAY (CL) - very moist; highly weathered sand grains; yellow; red; black		0	0	1207	
				20-13-16	100				0	0	1220	Depth to groundwater approx. 33' bgs on 6/4/01 1345
475	35			6-6-7	100		same as above - highly weathered sand grains; white; black; yellow-orange; very soft		0	0	1228	
470	40			9-14-20	100		same as above - wet; weathered sand grains; mottled white-black	▽	0	0	1300	Groundwater encountered at approx. 41' bgs on 6/4/01 1313
				14-30-33	100				0	0	1313	
465				14-56/6"	50				0	0		
	45			20-50/4"	25		weathered andesite fragments, hard		0	0		
460	50						same as above					
455	55						Boring terminated at approximately 54 feet bgs on 6/4/01 1500					
450	60											
445	65											
440	70											

URS

Report: ENV. Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB_L4.GPJ; Data T .WC_CORP1.GDT Printed: 11/26/01

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW05A

Sheet 1 of 2

Date(s) Drilled	6/6/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Hollow Stem Auger	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	36.5
Drill Rig Type	CME-75	Sampler Type	18" Split Spoon	Surface Elevation	506.9 NGVD
Groundwater Level	29.30 feet bgs 6/6/01 1130	Hammer Weight and Drop	30" 140 lb	Top of PVC Elevation	509.9 NGVD
Diameter of Hole (inches)	8.75	Diameter of Well (inches)	2	Type of Well Casing	Pre-packed V wire mesh	Screen Perforation	0.010"
Type of Sand Pack	20/40, 10/20 Silica	Type and Depth of Seal(s)	bentonite (2'-25', 34'-36' bgs); filter sand (25'-34' bgs); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,337.25 Northing 141,243.45				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate 24-hour (Time, clock)	REMARKS
505	0						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity		0	0	0940	UXO avoidance to 8' bgs
	5						same as above					
500												
	10			4-7-10	100		same as above		0	0	0946	
495												
	15			5-7-9	100		Silty CLAY (CL) - moist; light brown; mottled grey-black; medium plasticity		0	0	0954	
490												
	20			4-7-9	100		same as above		0	0	1001	
485												
	25			6-10-18	100		Sandy CLAY (CL) - wet; stiff; red-brown; weathered sand; trace of yellow gravel		0	0	1008	
480												Depth to ground... 28.3' bgs on 6/6/01 1130
	30											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW05A

Sheet 2 of 2

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
	30			4-5-7	100		same as above - decreasing stiffness		0	0	1016	Groundwater encountered at approx. 31' bgs 6/6/01 1110
475												
	35			5-7-10	100		same as above - wet; medium stiff; red-brown; some gravel		0	0	1023	
470							Boring terminated at approximately 36.5' bgs on 6/6/01 1136					
	40											
465												
	45											
460												
	50											
455												
	55											
450												
	60											
445												
	65											
440												
	70											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW06A

Sheet 1 of 1

Date(s) Drilled	9/9/02	Logged By	J. Rapp	Checked By	S. Wolfe
Drilling Method	Hand Auger	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (FT BGS)	6.0
Drill Rig Type	NA	Sampler Type	18" Split Spoon	Surface Elevation	
Groundwater Level	6 feet bgs	Drill Bit Size/Type	4" OD hand auger	Top of PVC Elevation	
Diameter of Hole (inches)	4	Diameter of Well (inches)	0.75	Type of Well Casing	Schedule 40 PVC	Screen Perforation	0.010"
Type of Sand Pack	10/20 Silica	Type and Depth of Seal(s)	bentonite (0-4'); filter sand (4-6')		
Comments	Monitoring well coordinates: Easting: Northing:				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	SAMPLES Time 24-hr clock	SAMPLES Dye test	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	Water/Soil Sheen Test	Soil - UV Fluorescence	PID Readings (ppm)	REMARKS
	0						Surface vegetation Brown silty CLAY (CL-ML) - dense, moist, some to trace yellow sub-rounded to rounded gravel, gravel size is 0.125" median diameter					No odor or evidence of contamination
	3			0930			Same as above with trace black, weathered, angular bedrock (andesite) fragments					
	5						Same as above 30% black sub-angular to angular bedrock in silty clay matrix					
	6						Soil boring terminated at 6 feet bgs (due to refusal) on 9/9/02 at 0930					

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-SB07A

Sheet 1 of 2

Date(s) Drilled	12/16/02	Logged By	J. Rapp	Checked By	S. Wolfe
Drilling Method	Hollow Stem Auger	Drill Bit Size/Type	8.75" OD auger	Total Depth Drilled (feet)	40.0
Drill Rig Type	CME-150	Drilling Contractor	Cascade Drilling Inc.	Top of PVC Elevation (feet)	NA
Groundwater Level (feet)	40 feet bgs on 12/16/02	Hammer Weight/ Drop (lbs/in.)	30" 140 lb	Approx. Surface Elevation (feet)	476.35 NGVD
Diameter of Hole (inches)	8 / Diameter of Well (inches) NA	Type of Well Casing	NA	Screen Perforation	NA
Type of Sand Pack	NA	Type/Thickness of Seal(s)	NA		
Comments	Soil boring abandoned and backfilled with bentonite chips. Boring coordinates: Northing: 140745.21 Easting: 1154417.20				

Elevation feet	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/foot	Headspace (ppm)	Graphic Log	MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
	0						Reddish-brown silty CLAY (CL) - medium dense, moist, medium plasticity, trace fine rock fragments	0856		0-40 feet: No odor or visual evidence of contamination
475										
	5			6 11 14				0900		
470										
	10			7 17 20			Reddish-brown clayey SILT to silty CLAY (CL-ML) - dense, moist, slight plasticity, some sub-round yellow-orange fine gravel, trace weathered black sand grains	0906		
465										
	15			6 8 10			Reddish-brown CLAY (CL) - medium stiff, moist, mottled gray and black, medium to low plasticity	0916		auger retracted - no groundwater present
460										
	20			4 9 19				0923		auger retracted - no groundwater present
455										
	25									

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-SB07A

Sheet 2 of 2

Elevation feet	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/foot	Headspace (ppm)	Graphic Log	MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
450	25			10 10 13			Grayish brown CLAY (CL) - moist, medium stiff to stiff, some fine sand, gray, white and black mottled appearance	0943		auger retracted - no groundwater present
445	30			6 20 54			Grayish-brown CLAY (CL) - moist, very stiff to hard, some fine sand, trace to some angular rock fragments (weathered bedrock)	1000		auger retracted - no groundwater present
440	35			16 23 36				1020		auger retracted - no groundwater present
435	40			9 11 55			Boring Terminated at 40 feet bgs at 1040 on 12/19/02	1040	▽	Water encountered at approximately 40 feet bgs Boring backfilled - no monitoring well installed
430	45									
425	50									
420	55									

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW01B

Sheet 1 of 3

Date(s) Drilled	6/14/2001 to 6/18/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Air Rotary Tubex	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	76.0
Drill Rig Type	IR T3W Ingersoll Rand	Sampler Type	NA	Surface Elevation	526.6 NGVD
Groundwater Level	11 feet bgs 6/19/01 1120	Hammer Weight and Drop	NA	Top of PVC Elevation	529.6 NGVD
Diameter of Hole (inches)	10	Diameter of Well (inches)	2	Type of Well Casing	Schedule 40 PVC	Screen Perforation	0.010"
Type of Sand Pack	20/40 Silica	Type and Depth of Seal(s)	bentonite (35'-38', 58'-76'); filter sand (38'-58'); cement grout (2'-35'); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,600.01 Northing 141,304.73				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
525	0						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity		0	0	0810	UXO Avoidance to 10'
	5						same as above		0	0	0812	
520												
	10						same as above		0	0	0828	Depth to groundwater 11' bgs (6/19/01 at 1120)
515												
	15						Silty CLAY (CL) - moist; light brown; soft;		0	0	0836	
510												
	20						same as above - weathered sand grains; mottled orange with black lenses of weathered sand		0	0	0859	centralizer at 20' bgs
505												
	25						same as above - trace of yellow gravel		0	0	0905	
500												
	30											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW01B

Sheet 2 of 3

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time 24-hour clock)	REMARKS
	30						Sandy silty CLAY (CL) - moist; red-brown; medium stiff; trace of gravel		0	0	0942	
495												
	35						same as above		0	0	0945	
490												
	40						Sandy CLAY (CL) - moist; mottled; yellow; black; weathered sand grains; weathered bedrock; trace yellow gravel		0	0	0959	centralizer at 40' bgs
485												
	45						same as above		0	0	1003	bentonite seal 45'-49' bgs
480												
	50						Sandy gravelly CLAY (CL) - wet; black; white; green; weathered bedrock; angular	▽	0	0	1041	water encountered at approx. 50' bgs (6/14/01 1140) advance 7" steel casing fromn 49' bgs
475												
	55						same as above - calcite nodules, weathered bedrock		0	0	1240	
470												air rotary drilling through weathered bedrock zone, no coring
	60						Gravelly SAND (SP-GP) - wet, black, angular fragments of andesite		0	0	1301	
465												
	65								0	0		bentonite seal placed at 65' bgs
460			Run #1		92%		top of apparent competent bedrock Phaneritic Andesite - unweathered bedrock; porphyritic; hornblende; olivine; hard horizontal fracture (8 degrees); crystalline-carbonate infilling fracture (5 degrees) vesicles		0	0		rock coring started on 6/15/01 0737 advance rock core bit from 66' bgs a 0 RPM
	70											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW01B

Sheet 3 of 3

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	SAMPLES Blows per 6-inch Interval	SAMPLES Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
455	70		Run #2		46%		vesicles horizontal fracture vesicles horizontal fracture horizontal fracture fracture (15 degrees)		0	0		Run #1 66' - 71' bgs; 92% recovery; 86% RQD 73.2' bgs bottom of recovered rock core
450	75						Boring terminated at approx. 76' bgs (6/18/01 @ 1052); bottom 2.8' of core not recovered					Run #2 71' -76' bgs; 46% recovery; 100% RQD
445	80											
440	85											
435	90											
430	95											
425	100											
420	105											
	110											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW02B

Sheet 1 of 3

Date(s) Drilled	6/19/2001 to 6/22/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Air Rotary Tubex	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	85.0
Drill Rig Type	IR T3W Ingersoll Rand	Sampler Type	NA	Surface Elevation	515.5 NGVD
Groundwater Level	32.8 feet bgs 6/25/01 1133	Hammer Weight and Drop	NA	Top of PVC Elevation	518.5 NGVD
Diameter of Hole (inches)	10	Diameter of Well (inches)	2	Type of Well Casing	Schedule 40 PVC	Screen Perforation	0.010"
Type of Sand Pack	20/40 Silica	Type and Depth of Seal(s)	bentonite (35'-38', 72'-85'); filter sand (57'-72'); cement grout (2'-35'); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,354.30 Northing 141,385.97				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
515	0						Gravelly silty SAND (SP) - dry; light brown; possible imported fill		0	0	1440	UXO Avoidance to 8' bgs advance 9.75" steel casing
510	5								0	0	1443	
												rock obstruction
505	10						Rock - aphanitic; mica, horneblend, crystalline carbonate, possible boulder		0	0	1512	casing pushed off center. Use 14" hammer to open hole past rock obstruction.
500	15						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity		0	0		approximate bottom of rock obstruction
									0	0	1627	resume drilling 6/20/01
												centralizer at 19' bgs
495	20						same as above		0	0		
490	25						same as above - trace of yellow gravel		0	0		
									0	0	1654	
	30											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW02B

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
485	30						same as above - mottled yellow orange					
												static water level recorded on 6/25/01 1133
480	35						same as above		0	0	1706	
												centralizer at 39' bgs
475	40						Sandy CLAY (CL) - moist; mottled; yellow; black; weathered sand grains; weathered bedrock; trace yellow gravel; low plasticity					water encountered at 41.6' on 6/21/01 0843
470	45						same as above		0	0	1732	
									0	0	1745	resume drilling 6/21/01
465	50						same as above					
460	55						same as above					
									0	0	0815	
455	60						same as above					centralizer at 59' bgs
450	65						same as above - wet; hard; stiff		0	0	0857	
	70								0	0	0921	

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW02B

Elevation, feet (MSL)	Depth, feet	SAMPLES: Type	SAMPLES: Number	SAMPLES: Blows per 6-inch Interval	SAMPLES: Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
445	70						Clayey gravelly SAND (SW) - wet; black; white; green; weathered andesite; angular		0	0	0938	
440	75		Run #1		40%		top of apparent competent bedrock Phaneritic Andesite - unweathered bedrock; porphyritic; hornblende; olivine; hard vesicles horizontal fracture horizontal fracture		0	0	1240	bentonite seal; begin rock coring at 75' bgs
435	80		Run #2		0%				0	0	1320	end of core Run #1; 40% recovery; 100% RQD
430	85						Boring terminated at 85' bgs on 6/21/01 1500		0	0	1446	end of core Run #2; 0% recovery
425	90											
420	95											
415	100											
410	105											
	110											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW03B

Sheet 1 of 2

Date(s) Drilled	6/25/2001 to 6/27/2001	Logged By	J.Rapp	Checked By	S. Wolfe
Drilling Method	Air Rotary Tubex	Drilling Contractor	Cascade Drilling Inc.	Total Depth Drilled (feet)	70.0
Drill Rig Type	IR T3W Ingersoll Rand	Sampler Type	NA	Surface Elevation	508.5 NGVD
Groundwater Level	27 feet bgs 6/26/01 0755	Hammer Weight and Drop	NA	Top of PVC Elevation	511.5 NGVD
Diameter of Hole (inches)	10	Diameter of Well (inches)	2	Type of Well Casing	Schedule 40 PVC	Screen Perforation	0.010"
Type of Sand Pack	20/40 Silica	Type and Depth of Seal(s)	bentonite (42'-45', 60'-70'); filter sand (45'-60'); cement (2'-42'); cement (0'-2')		
Comments	Monitoring well coordinates: Easting 1,154,398.22 Northing 141,268.17				

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	SAMPLES Blows per 6-inch Interval	SAMPLES Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
	0						Silty CLAY - Clayey SILT (CL-ML) - moist; red-brown; some sand; trace gravel; low to medium plasticity		0	0	1330	UXO Avoidance to 8' bgs advance 9.75" steel casing
505												
	5						same as above		0	0	1334	
500												centralizer at 7' bgs
	10						same as above					
495												
	15						same as above		0	0	1355	
490												
	20						same as above		0	0	1400	
485												
	25						same as above - medium stiff; trace of yellow gravel					
480												Depth to groundwater 27' bgs 6/26/01 0755 centralizer at 27' bgs
	30						same as above - some sand, some gravel		0	0	1450	
475												
	35											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW03B

Sheet 2 of 2

Elevation, feet (MSL)	Depth, feet	SAMPLES Type	SAMPLES Number	Blows per 6-inch Interval	SAMPLES Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
	35						same as above					
470												
	40						Sandy CLAY (CL) - mottled; weathered sand grains; some yellow gravel		0	0	1457	
465												
	45						same as above - some gravel to 1"; weathered andesite fragments					centralizer at 47' bgs
460								▽				
	50						same as above - weathered andesite, altered sand grains, quartz nodules		0	0	1550	groundwater encountered at approx. 50 feet bgs 6/25/01 1600
455												
	55						same as above - weathered andesite		0	0	1605	
450												
	60		Run #1		93%		Phaneritic Andesite - unweathered bedrock; porphyritic; hornblende; olivine; hard horizontal fracture fracture 30 - 35 degrees vesicles horizontal fracture		0	0		9.75" casing on top of competent bedrock; bentonite seal set prior to rock coring
445												
	65		Run #2		100%		fracture 2 degrees healed fracture; crystalline carbonate infilling		0	0		Bottom of Run #1; 93% Recovery; 100% RQD
440												
	70						Boring terminated at 70' bgs on 6/26/01 at 1416					Bottom of Run #2; 100% Recovery; 100% RQD
435												
	75											
430												
	80											

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Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW07B

Sheet 1 of 2

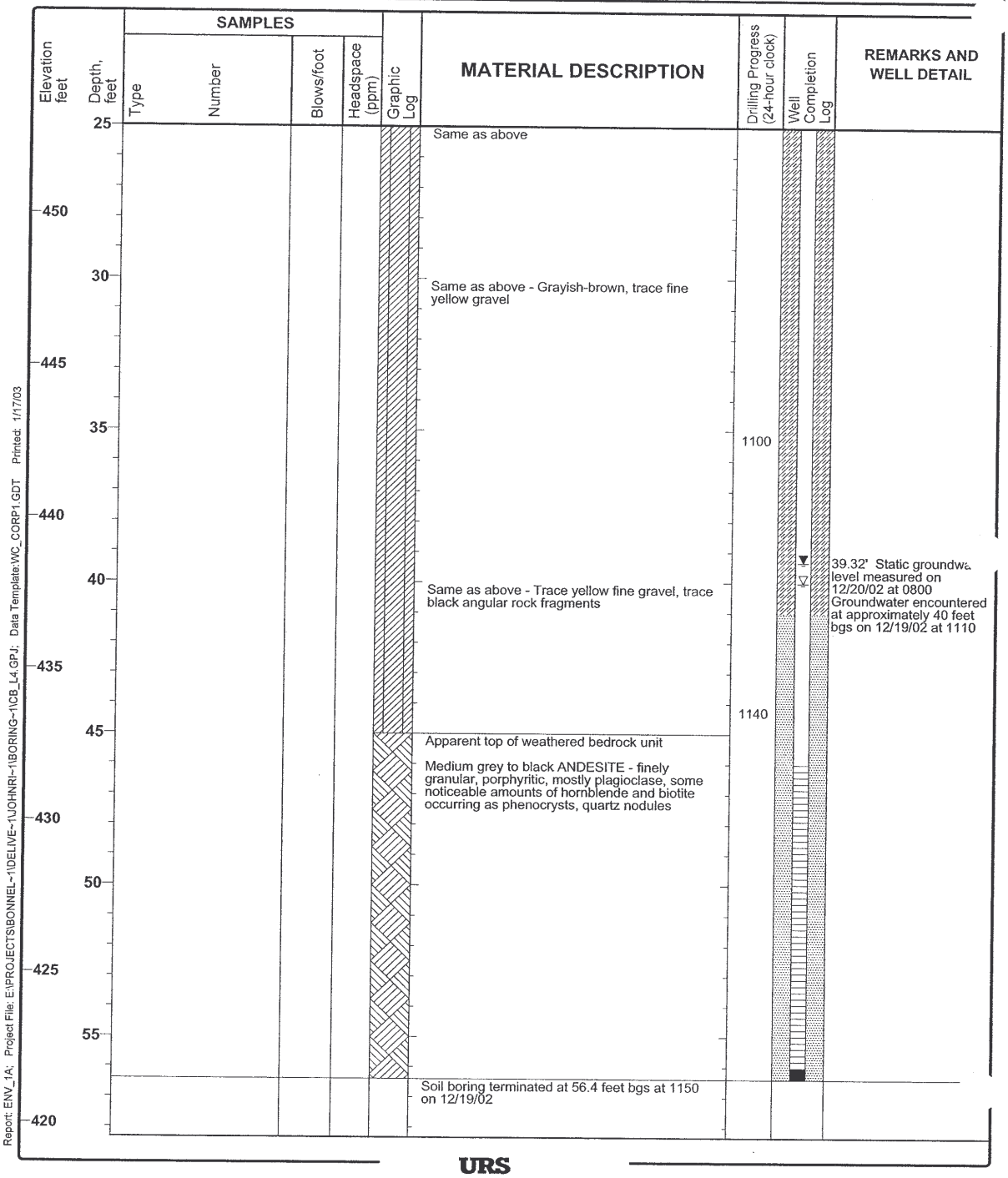
Date(s) Drilled	12/19/02	Logged By	J. Rapp	Checked By	S. Wolfe
Drilling Method	Air Rotary	Drill Bit Size/Type	Tricone	Total Depth Drilled (feet)	56.4
Drill Rig Type	IR T3W Ingersoll Rand	Drilling Contractor	Cascade Drilling Inc.	Top of PVC Elevation (feet)	480.80
Groundwater Level (feet)	39.32 feet bgs on 12/20/02 0800	Hammer Weight/ Drop (lbs/in.)	NA	Approx. Surface Elevation (feet)	477.89 NGVD
Diameter of Hole (inches)	10 / Diameter of Well (inches) 2	Type of Well Casing	Schedule 40 PVC V-wrap	Screen Perforation	0.010"
Type of Sand Pack	20/40, 10/20 Silica	Type/Thickness of Seal(s)	bentonite (2'-43' bgs); filter sand (41'-56' bgs); cement (0'-2'); screen interval (46-56')		
Comments	Monitoring well coordinates: Easting: 1154434.64 Northing: 140735.34				

Elevation feet	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/foot	Headspace (ppm)	Graphic Log	MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
480	0						Reddish-brown silty CLAY (CL) - moist, soft, low to medium plasticity, trace of fine sand	0955		0-56 feet: No odor or visual evidence of contamination
475	5									
470	10						Reddish-brown clayey SILT to silty CLAY (ML-CL) - moist, soft to medium stiff, low plasticity, trace fine sand			
465	15							1015		
460	20						Same as above - medium stiff, trace to some fine sand			
455	25									

Project: Landfill 4/Demolition Area 1
Project Location: Camp Bonneville, WA
Project Number: 53-F0072323.00

Log of Boring L4-MW07B

Sheet 2 of 2



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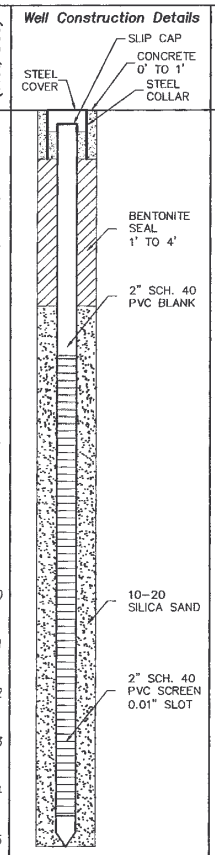
4412 SW CORBETT
PORTLAND, OREGON
97239
(503) 248-1939
FAX
(503) 248-0223

Bore Hole/Well Construction Log

Project Number:	Boring/Well Number:	Sheet
16978.004	L4-MW17	1 of 1

Project Name: CAMP BONNEVILLE
Project Location: LACAMAS CREEK/ LANDFILL 4
Driller/Equipment: CASCADE DRILLING/ AIR ROTARY
Geologist/Engineer: ANDREW HARVEY
Sample Method: DAMES AND MOORE SAMPLER

TOC Elevation (feet above datum): 361.48
Surface Elevation (feet above datum): 358.81
Start/End Date: 5/17/04
Hole Depth: 15 FEET
Outer Hole Diameter: 8 INCH



0-5': Brown, sandy **SILT** with gravel and trace cobbles. Slightly moist, firm.

5'-15': Gray **BASALT.** Moderately to slightly weathered, hard.

Becomes unweathered at 9 feet.

▼ Groundwater at 10.06' on 6-14-04.

BOTTOM OF BORING AT 15'
Well finished with aboveground steel pipe monument set in concrete pad.

NOTES

1. SOIL INTERFACES AND DESCRIPTIONS ARE INTERPRETIVE AND ACTUAL CHANGES AND TRANSITIONS MAY BE GRADUAL.
2. WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR.
3. SOIL DESCRIPTIONS NOT INTENDED TO BE USED FOR GEOTECHNICAL DESIGN PURPOSES.

REV. —

MW-17

8/5/04 11:49 P:\16000\16978 Camp Bonneville GW\16978.004 - 2nd qtr 2004\16978.004_Monitoring_Wells_2nd_Quarter_2004.dwg

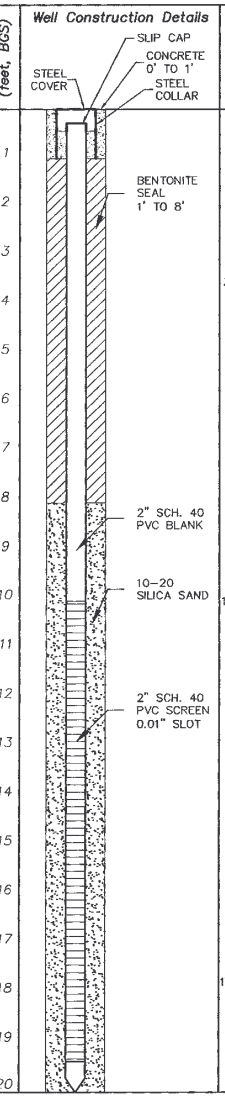
PBS
4412 SW CORBETT
PORTLAND, OREGON
97239
(503) 248-1939
FAX
(503) 248-0223

Bore Hole/Well Construction Log

Project Number:	Boring/Well Number:	Sheet
16978.004	L4-MW18	1 of 1

Project Name: CAMP BONNEVILLE
Project Location: LACAMAS CREEK/ LANDFILL 4
Driller/Equipment: CASCADE DRILLING/ AIR ROTARY
Geologist/Engineer: ANDREW HARVEY
Sample Method: DAMES AND MOORE SAMPLER

TOC Elevation (feet above datum): 362.48
Surface Elevation (feet above datum): 360.47
Start/End Date: 5/18/04
Hole Depth: 20 FEET
Outer Hole Diameter: 8 INCH



NOTES

1. SOIL INTERFACES AND DESCRIPTIONS ARE INTERPRETIVE AND ACTUAL CHANGES AND TRANSITIONS MAY BE GRADUAL.
2. WATER LEVEL IS FOR DATE SHOWN AND MAY VARY WITH TIME OF YEAR.
3. SOIL DESCRIPTIONS NOT INTENDED TO BE USED FOR GEOTECHNICAL DESIGN PURPOSES.

REV. ____

MW-18

8/5/04 11:48 P:\16000\16978 Camp Bonneville GW\16978.004 - 2nd qtr 2004\16978.004_Monitoring_Wells_2nd_Quarter_2004.dwg

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (ug/L)													VOCs	SVOCs	Petroleum Hydrocarbons			Ordnance Explosives Compounds (ug/L)		NG (ug/L)	PETN (ug/L)	Picric Acid (ug/L)	Perchlorate (ug/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
01LC-MW01SW	12/10/03	Lacamas Cr.	0.16	0.32	0.03	0.10	3.3	0.46	0.23	2.8	0.25	0.07	0.04	8.1	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L
01LC-MW06DW	12/16/03	Lacamas Cr.	0.1	0.51	ND	0.07	3.4	0.31	0.14	4.1	0.16	0.04	ND	2.7	0.029	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.0	< 2	47	chloride, 5 mg/L; sulfate, 8 mg/L
01LC-MW02SW	12/10/03	Lacamas Cr.	0.34	0.83	0.20	0.25	1.3	0.19	0.32	1.1	0.08	0.25	0.24	2.4	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L
01LC-MW07DW	12/16/03	Lacamas Cr.	0.07	0.78	ND	ND	2.3	0.25	0.17	2.1	ND	ND	ND	4.1	0.033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 2 mg/L
01LC-MW03SW	12/10/03	Lacamas Cr.	0.09	0.60	0.02	0.15	8.3	0.98	0.41	6.4	ND	0.04	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L; nitrate, 0.3 mg/L
01LC-MW08DW	12/16/03	Lacamas Cr.	0.11	1.2	0.09	0.07	3.0	0.35	0.21	2.0	ND	0.06	0.08	5.6	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	52	chloride, 2 mg/L; nitrate, 0.4 mg/L; sulfate, 2 mg/L
01LC-MW04SW	12/10/03	Lacamas Cr.	ND	0.27	0.06	0.04	2.7	2.1	0.54	2.1	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	< 1.0	< 1.0	9	38	chloride, 2 mg/L; nitrate, 0.8 mg/L
01LC-MW09DW	12/16/03	Lacamas Cr.	0.08	2.1	ND	ND	2.7	0.86	0.24	2.2	0.06	ND	0.02	5.8	0.029	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	62	chloride, 4 mg/L; nitrate, 0.3 mg/L; sulfate, 6 mg/L
01LC-MW05SW	12/15/03	Demo Area 3	0.06	2.1	ND	0.17	2.7	0.82	0.55	2.2	0.14	ND	ND	5.7	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01LC-MW10DW	12/15/03	Demo Area 3	0.19	1.2	0.04	0.11	7.0	1.0	0.80	6.2	0.27	ND	ND	4.1	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01LC-MW11SW	12/15/03	Demo Area 3	0.20	2.4	1.0	0.27	4.7	6.1	8.2	4.5	0.35	ND	0.03	19.3	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01LC-MW12SW	12/15/03	Demo Area 3	0.26	3.5	0.05	2.3	16.3	3.0	1.1	9.6	0.20	ND	ND	7.0	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01LC-MW13SW	12/15/03	Demo Area 3	0.17	1.3	ND	0.38	18.7	3.5	1.2	12.8	0.35	0.11	0.03	8.8	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
010LC-MW14W	12/11/03	Demo Area 2	ND	1.2	0.12	0.10	7.3	13.7	1.5	4.7	ND	ND	ND	9.2	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
010LC-MW15W	12/11/03	Demo Area 2	0.07	1.3	0.26	0.06	6.4	14.6	3.1	6.5	0.07	ND	ND	15.8	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
010LC-MW16W	12/11/03	Demo Area 2	ND	3.7	ND	ND	0.84	0.71	0.16	1.3	0.07	ND	ND	3.1	ND	nt	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01L4-MW01AW	12/17/03	Landfill 4	ND	0.32	0.14	ND	6.2	11.4	1.2	4.3	0.14	ND	ND	10.5	0.028	ND	nt	nt	nt	nt	ND		ND	ND	ND	4	nt	nt	nt	nt	nt
01L4-MW01BW	12/17/03	Landfill 4	0.15	0.15	0.08	ND	2.8	0.33	0.10	1.6	0.05	0.09	0.05	1.4	0.024	ND	nt	nt	nt	nt	ND		ND	ND	ND	ND	nt	nt	nt	nt	nt
01L4-MW02AW	12/17/03	Landfill 4	ND	0.46	0.19	0.07	12.2	18.5	0.80	10.4	0.17	ND	ND	21.8	0.026	ND	nt	nt	nt	nt	3.0	27	ND	ND	ND	190	nt	nt	nt	nt	nt
01L4-MW02BW	12/17/03	Landfill 4	ND	0.20	0.11	0.04	5.6	2.8	0.87	5.7	ND	ND	ND	6.0	0.029	Detect: See VOC Table	nt	nt	nt	nt	3.5	97	ND	ND	ND	270	nt	nt	nt	nt	nt
01L4-MW03AW	12/18/03	Landfill 4	0.05	ND	0.03	ND	4.3	0.63	0.11	3.3	0.05	ND	ND	3.7	0.027	ND	nt	nt	nt	nt	ND	9.8	ND	ND	ND	100	nt	nt	nt	nt	nt
01L4-MW03BW	12/18/03	Landfill 4	ND	0.27	0.10	0.09	2.7	1.8	1.4	2.4	0.11	ND	ND	8.4	0.030	ND	nt	nt	nt	nt	ND	2.9	ND	ND	ND	37	nt	nt	nt	nt	nt
01L4-MW04AW	12/17/03	Landfill 4	ND	0.37	0.13	0.10	12.2	23.8	0.72	8.4	0.06	ND	ND	17.1	0.029	ND	nt	nt	nt	nt	ND	0.52	ND	ND	ND	14	nt	nt	nt	nt	nt
01L4-MW05AW	12/18/03	Landfill 4	ND	0.37	0.15	0.98	10.4	10.8	0.82	7.0	ND	ND	ND	17.6	0.035	Detect: See VOC Table	nt	nt	nt	nt	ND	3.3	ND	ND	ND	41	nt	nt	nt	nt	nt
01L4-MW07BW	12/18/03	Landfill 4	ND	0.16	ND	0.06	2.3	0.68	0.09	1.9	ND	ND	ND	3.1	0.028	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
01LCMW100DW (field duplicate of 01LC-MW09DW)	12/16/03	Lacamas Cr.	0.18	1.8	0.04	ND	3.0	0.3	0.08	2.2	0.07	0.10	0.05	2.2	0.028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	3	64	chloride, 4 mg/L; nitrate, 0.2 mg/L; sulfate, 7 mg/L
01L4-MW110AW (duplicate of 01L4-MW02BW)	12/17/03	Landfill 4	ND	0.13	0.06	ND	1.8	2.0	0.56	1.5	ND	ND	<0.02	4.9	0.024	Detect: See VOC Table	ND	nt	nt	nt	3.6	110	ND	ND	ND	270	nt	nt	nt	nt	nt
01L4-MW115AW (field rinsate; deionized water)	12/17/03	Landfill 4	ND	ND	ND	ND	0.63	0.24	0.06	0.30	ND	ND	ND	2.9	0.026	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
01LC-MW09DWDUP (lab duplicate of 01LC-MW09DW)	12/16/03	Lacamas Cr.	0.06	2.2	ND	ND	3.0	0.53	0.2	2.1	0.08	ND	ND	2.9	0.026	nt	nt	ND	ND	ND	nt	nt	nt	nt	nt	nt	< 1.0	nt	nt	nt	nt
Trip Blank	12/16/03	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
01MW204 (Trip Blank)	12/10/03	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.05	0.04	0.02	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.007	varies	varies	0.20 mg/L	0.80 mg/L	25 ug/L	0.47 ug/L	0.47 ug/L	2.4 ug/L	1.2 ug/L	0.94 ug/L	4 ug/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (ug/L)			n/a		5	n/a		5	50	n/a		15	n/a	n/a	n/a	n/a	n/a	500	500	1000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4.8	4.8																

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
DETECT - VOC compound detected; see separate VOC table

TABLE 5. DISSOLVED METALS AND TOC
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (ug/L)													TOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
01LC-MW01SW	12/10/03	Lacamas Cr.	0.16	0.35	0.05	0.07	3.6	0.23	0.18	3.5	0.24	0.06	0.06	19.9	ND	nt
01LC-MW06DW	12/16/03	Lacamas Cr.	0.09	0.51	ND	0.18	1.1	0.6	0.18	3.4	0.17	0.04	ND	23.4	0.036	ND
01LC-MW02SW	12/10/03	Lacamas Cr.	0.31	0.96	0.21	0.19	0.85	0.25	0.39	1.2	0.26	0.24	0.22	2.3	ND	nt
01LC-MW07DW	12/16/03	Lacamas Cr.	0.09	0.85	0.03	ND	0.74	0.21	0.15	1.7	ND	ND	ND	2.2	0.036	ND
01LC-MW03SW	12/10/03	Lacamas Cr.	0.24	0.60	0.19	0.35	3.6	0.34	0.42	2.4	0.12	0.21	0.21	2.8	ND	nt
01LC-MW08DW	12/16/03	Lacamas Cr.	0.05	1.0	ND	ND	0.55	0.23	0.16	1.1	ND	ND	ND	4.9	0.041	ND
01LC-MW04SW	12/10/03	Lacamas Cr.	0.18	0.16	0.14	0.24	0.58	0.34	0.18	1.2	0.05	0.15	0.14	5.4	ND	nt
01LC-MW09DW	12/16/03	Lacamas Cr.	0.06	1.8	ND	ND	0.90	0.30	0.05	1.4	0.09	ND	ND	11.1	0.028	ND
01LC-MW05SW	12/15/03	Demo Area 3	0.16	2.0	0.08	0.28	1.6	0.44	0.22	2.1	0.15	0.10	0.09	3.7	ND	nt
01LC-MW10DW	12/15/03	Demo Area 3	0.14	1.0	ND	0.09	1.7	0.15	0.07	2.7	0.18	ND	ND	2.6	ND	nt
01LC-MW11SW	12/15/03	Demo Area 3	0.06	1.1	ND	ND	1.2	0.79	0.20	2.9	0.37	ND	ND	3.0	ND	nt
01LC-MW12SW	12/15/03	Demo Area 3	0.17	3.5	ND	0.32	1.6	0.30	0.14	2.7	0.17	ND	ND	3.0	ND	nt
01LC-MW13SW	12/15/03	Demo Area 3	0.15	1.4	ND	0.32	1.5	0.70	0.23	3.4	0.28	0.04	ND	4.3	ND	nt
01LC-MW14SW	12/11/03	Demo Area 2	0.07	0.11	0.04	0.04	0.41	0.23	0.10	0.99	ND	0.05	0.04	1.6	ND	nt
010LC-MW15W	12/11/03	Demo Area 2	ND	0.23	0.05	ND	0.42	0.27	0.08	1.4	0.05	ND	ND	2.5	ND	nt
010LC-MW16W	12/11/03	Demo Area 2	0.07	3.7	0.03	0.06	0.52	0.10	0.06	1.1	0.07	0.05	0.03	2.5	ND	nt
01L4-MW01AW	12/17/03	Landfill 4	ND	ND	ND	ND	0.66	0.11	0.13	1.6	0.10	ND	ND	4.2	0.029	nt
01L4-MW01BW	12/17/03	Landfill 4	0.13	ND	0.04	ND	0.85	0.09	0.08	0.66	ND	0.06	ND	1.3	0.024	nt
01L4-MW02AW	12/17/03	Landfill 4	ND	ND	0.04	ND	0.90	0.15	ND	1.9	0.09	ND	ND	2.5	0.027	nt
01L4-MW02BW	12/17/03	Landfill 4	ND	ND	0.05	0.06	0.41	0.41	0.09	1.1	ND	ND	ND	5.3	0.027	nt
01L4-MW03AW	12/18/03	Landfill 4	ND	ND	ND	ND	1.4	0.21	0.23	1.5	ND	ND	ND	4.9	0.037	nt
01L4-MW03BW	12/18/03	Landfill 4	ND	ND	ND	0.35	0.70	0.43	0.19	1.7	0.08	ND	ND	7.7	0.025	nt
01L4-MW04AW	12/17/03	Landfill 4	ND	ND	ND	0.15	1.1	0.26	0.17	3.3	0.06	ND	ND	7.4	0.028	nt
01L4-MW05AW	12/18/03	Landfill 4	ND	ND	ND	ND	0.74	0.19	0.18	1.8	ND	ND	ND	3.1	0.028	nt
01L4-MW07BW	12/18/03	Landfill 4	ND	0.14	ND	ND	1.0	0.51	ND	1.5	ND	ND	ND	2.2	0.026	nt
01LCMW100DW (field duplicate of 01LC-MW09DW)	12/16/03	Lacamas Cr.	0.25	1.6	0.08	ND	0.85	0.41	0.13	1.3	0.13	0.11	0.09	3.1	0.023	ND
01L4-MW110AW (duplicate of 01L4-MW02BW)	12/17/03	Landfill 4	ND	ND	0.04	ND	0.47	0.23	ND	1.6	ND	ND	ND	3.5	0.026	nt
01L4-MW115AW (field rinsate; deionized water)	12/17/03	Landfill 4	ND	ND	ND	ND	0.21	ND	ND	0.07	ND	ND	ND	1.1	0.026	nt
01LC-MW09DW (DISS) D; (lab duplicate of 01LC-MW09DW)	12/16/03	Lacamas Cr.	ND	2	ND	ND	0.9	0.29	ND	1.3	0.08	ND	ND	3.0	0.027	nt
Lab detection limit			0.05	0.04	0.02	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.007	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE ORGANIC COMPOUNDS
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (ug/L)						
			1,1-Dichloroethene	Methylene chloride (see Note)	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodiflouromethane	Tetrachloroethene	Chloroform
01L4-MW02BW	12/17/03	Landfill 4	27	0.5	37	170	180	0.6	ND
01L4-MW05AW	12/18/03	Landfill 4	ND	ND	ND	ND	ND	0.7	ND
01LC-MW100DW (duplicate of 01LC-MW09DW)	12/16/03	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND
Trip Blank	12/16/03	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND
01MW204 (Trip Blank)	12/10/03	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND
01L4-MW110AW (duplicate of 01L4-MW02BW)	12/17/03	Landfill 4	27	0.6	37	160	180	0.7	ND
01L4-MW115AW (field rinsate; deionized water)	12/17/03	Landfill 4	ND	ND	ND	0.6	ND	ND	7.4
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	200	n/a	n/a	n/a

Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride is a common laboratory solvent and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Parameters at Time of Sampling						
Sample No.	**Date**	**Time**	**Depth to Water***	**Temp (degrees C)**	**Conductivity (mS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**	**Color and Relative Turbidity**	**Notes**
01LC-MW01SW	12/10/03	1050	4.47	12.33	0.15	n.m.	6.59	clear	
01LC-MW06DW	12/16/03	1115	4.44	11.65	0.119	n.m.	6.24	clear	
01LC-MW02SW	12/10/03	1215	4.88	12.11	0.14	n.m.	6.84	clear	
01LC-MW07DW	12/16/03	1200	5.03	11.47	0.1	8.3	6.22	clear	
01LC-MW03SW	12/10/03	1330	4.26	12.39	0.13	n.m.	6.9	clear	
01LC-MW08DW	12/16/03	1235	4.26	11.02	0.113	7.8	6.19	clear	
01LC-MW04SW	12/10/03	1430	4.23	11.56	0.11	n.m.	7.42	clear	
01LC-MW09DW	12/16/03	1330	4.49	10.79	0.145	8.3	6.07	clear	
01LC-MW05SW	12/15/03	1440	7.47	11.59	0.187	6.5	6.7	clear	
01LC-MW10DW	12/15/03	1415	0.22	11.19	0.169	3.9	6.52	clear	
01LC-MW11SW	12/15/03	1515	5.2	11.32	0.298	6.0	6.49	sl. turbid	
01LC-MW12SW	12/15/03	1615	9.11	10.63	0.355	6.3	6.48	clear	
01LC-MW13SW	12/15/03	1335	5.10	10.94	0.692	4.0	6.52	clear	
010LC-MW14W	12/11/03	1120	5.18	10.11	*2120*	n.m	*10.4*	clear	**See Notes**
010LC-MW15W	12/11/03	1235	9.37	9.44	*2720*	n.m	*11.6*	clear	**See Notes**
010LC-MW16W	12/11/03	1315	7.29	10.22	*2110*	n.m	*9.82*	clear	**See Notes**
01L4-MW01AW	12/17/03	1615	16.48	10.66	0.057	6.3	2.69	sl. turbid, brown	
01L4-MW01BW	12/17/03	1600	55.4	10.02	0.026	9.4	3.16	clear	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Parameters at Time of Sampling						
Sample No.	**Date**	**Time**	**Depth to Water***	**Temp (degrees C)**	**Conductivity (mS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**	**Color and Relative Turbidity**	**Notes**
01L4-MW02AW	12/17/03	1415	40.2	11.05	0.031	9.3	2.96	cloudy, red-brown	
01L4-MW02BW	12/17/03	1300	29.37	11.78	0.026	5.5	2.63	red-brown, then clear	
01L4-MW03AW	12/18/03	1115	28.2	10.81	0.025	8.9	3.02	clear	
01L4-MW03BW	12/18/03	1045	25.65	10.99	0.05	7.7	2.73	clear	
01L4-MW04AW	12/17/03	1500	26.85	10.24	0.02	7.1	3.25	clear	
01L4-MW05AW	12/18/03	1000	23.34	10.14	0.027	8.5	2.28	turbid, red-brown	
01L4-MW07BW	12/18/03	1200	39.53	9.95	0.039	8.2	3.37	clear	

Notes: * = depth in feet measured from top of well PVC casing in December 2004
Water quality parameter meter pH and conductivity probes not functioning correctly for wells LC-MW14, LC-MW15, LC-MW16. Readings for these wells have suspect accuracy.
n.m. = not measured

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well No.	WADOE Tag No.	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Well No. in Previous Reports
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	L4-MW07B

* = screened interval reported on well completion logs
** = depth in feet measured from top of well PVC casing in December 2004
N/A = not available

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	**Date**	**Time**	**Depth to Water in Feet***	**Temp (degrees C)**	**Conductivity (mS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**	**Color and Relative Turbidity**	**Notes**
02LC-MW01SW	3/16/04	1033	4.90	10.51	0.093	6.4	8.39	clear	
02LC-MW06DW	3/16/04	1035	5.29	11.38	0.118	7.1	8.70	clear	
02LC-MW02SW	3/16/04	1236	5.35	10.70	0.101	6.4	9.26	clear	
02LC-MW07DW	3/16/04	1138	8.21	11.36	0.101	7.0	9.33	clear	
02LC-MW03SW	3/17/04	1025	4.80	10.67	0.095	8.0	8.93	clear	
02LC-MW08DW	3/17/04	1026	4.80	11.01	0.115	6.9	8.46	clear	
02LC-MW04SW	3/16/04	1436	4.68	9.67	0.092	6.4	9.11	clear	
02LC-MW09DW	3/16/04	1515	5.50	10.51	0.124	6.9	8.52	clear	
02LC-MW05SW	3/15/04	1325	6.67	10.61	0.198	5.4	9.55	clear	
02LC-MW10DW	3/15/04	1357	0.18	11.08	0.164	5.4	8.83	clear	**See Notes**
02LC-MW11SW	3/15/04	1240	6.09	9.72	0.428	4.0	9.34	clear	
02LC-MW12SW	3/15/04	1445	7.30	10.62	0.367	5.1	9.75	clear	
02LC-MW13SW	3/15/04	1441	6.82	11.15	0.451	4.3	9.61	clear	
020LC-MW14W	3/11/04	1401	5.68	8.93	0.046	5.1	8.03	clear	
020LC-MW15W	3/15/04	1002	9.24	9.63	0.031	5.8	8.32	cloudy	
020LC-MW16W	3/15/04	1048	7.05	10.44	0.476	3.9	10.01	cloudy	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	Date	Time	Depth to Water in Feet*	Temp (degrees C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Color and Relative Turbidity	Notes
02L4-MW01AW	3/10/04	1111	15.98	10.39	0.048	5.8	7.86	slightly cloudy	
02L4-MW01BW	3/10/04	1110	12.18	10.08	0.028	7.4	8.09	slightly cloudy	
02L4-MW02AW	3/10/04	1455	23.64	11.25	0.084	6.9	7.60	red-brown	
02L4-MW02BW	3/10/04	1457	29.58	11.70	0.028	3.0	7.50	red-brown, cloudy	
02L4-MW03AW	3/11/04	1030	27.82	11.00	0.027	7.2	7.42	clear	
02L4-MW03BW	3/11/04	1102	25.10	11.15	0.041	6.4	7.76	clear	
02L4-MW04AW	3/10/04	1340	27.01	11.39	0.021	6.0	8.01	clear	very slow recovery
02L4-MW05AW	3/11/04	1145	22.60	10.58	0.028	6.6	7.57	slightly red-brown	
02L4-MW07BW	3/10/04	1020	38.84	9.92	0.042	6.0	8.16	clear	

Notes:
* = depth in feet measured from top of well PVC casing.
Water level in monitoring well LC-MW10D at top rim of steel casing when opened on 3/15/04.
Field parameters of temperature, conductivity, dissolved oxygen and pH measured with a YSI Model 5563 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = screened interval reported on well completion logs
** = depth in feet measured from top of well PVC casing
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 1st QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (ug/L)													VOCs	SVOCs	Petroleum Hydrocarbons			Ordnance Explosives Compounds (ug/L)		NG (ug/L)	PETN (ug/L)	Picric Acid (ug/L)	Perchlorate (ug/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
02LC-MW01SW	3/16/2004	Lacamas Cr.	ND	0.2	ND	0.02	0.77	0.26	0.04	1.1	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 2 mg/L; sulfate, 1 mg/L
02LC-MW06DW	3/16/2004	Lacamas Cr.	ND	0.43	ND	0.44	1.2	0.37	0.11	2.7	0.17	ND	0.01	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	45	chloride, 7 mg/L; sulfate, 8 mg/L
02LC-MW02SW	3/16/2004	Lacamas Cr.	ND	0.68	ND	0.69	0.68	0.21	0.03	0.73	0.08	0.03	ND	1.3	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L
02LC-MW07DW	3/16/2004	Lacamas Cr.	0.15	0.66	ND	0.76	0.88	0.29	0.11	1.3	ND	0.08	0.02	0.96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	46	chloride, 2 mg/L; sulfate, 1 mg/L
02LC-MW03SW	3/17/2004	Lacamas Cr.	0.12	0.49	ND	0.27	0.66	0.19	0.03	0.73	0.1	0.11	0.02	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 2 mg/L; nitrate, 0.3 mg/L
02LC-MW08DW	3/17/2004	Lacamas Cr.	ND	0.93	ND	0.02	0.73	0.41	0.13	1.1	0.14	ND	ND	3.4	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	50	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 2 mg/L
02LC-MW04SW	3/16/2004	Lacamas Cr.	ND	0.13	0.04	0.04	1.7	1.1	0.29	1.4	0.15	ND	0.01	4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	14	38	chloride, 2 mg/L; nitrate, 0.9 mg/L
02LC-MW09DW	3/16/2004	Lacamas Cr.	0.08	1.5	ND	0.11	1.0	0.45	0.11	1.2	0.08	ND	ND	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	59	chloride, 3 mg/L; nitrate, 0.3 mg/L; sulfate, 4 mg/L
02LC-MW05SW	3/15/2004	Demo Area 3	0.04	2	ND	0.04	1.8	0.8	0.22	0.97	0.1	ND	ND	2.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW10DW	3/15/2004	Demo Area 3	0.16	0.99	0.02	0.08	1.9	1.1	0.78	1.1	0.21	0.03	ND	3.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW11SW	3/15/2004	Demo Area 3	0.11	2	0.13	0.2	8.7	17.6	2.3	5.3	0.16	0.02	ND	53.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW12SW	3/15/2004	Demo Area 3	0.22	3.7	0.03	0.22	2.2	0.97	0.32	1.4	0.20	0.04	0.03	7.1	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW13SW	3/15/2004	Demo Area 3	0.09	2.1	ND	0.05	6	3.1	0.75	3.4	0.14	0.04	ND	4.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW14W	3/11/2004	Demo Area 2	0.1	3.2	0.25	0.16	16.3	39.3	3.6	8.6	0.06	0.03	0.02	33.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW15W	3/15/2004	Demo Area 2	0.07	1.1	0.27	0.09	5.8	19.3	4.3	4.1	0.26	0.03	0.03	40.9	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02LC-MW16W	3/15/2004	Demo Area 2	ND	3.7	ND	0.04	1.7	0.63	0.17	1.1	0.09	ND	ND	2.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
02L4-MW01AW	3/10/2004	Landfill 4	0.34	3.1	1.3	0.57	38.1	114	10.7	26.5	0.3	0.28	0.25	95	ND	ND	nt	nt	nt	nt	ND	ND	nt	nt	nt	5	nt	nt	nt	nt	nt
02L4-MW01BW	3/10/2004	Landfill 4	0.05	0.1	0.05	ND	4.0	2.8	0.32	2.1	ND	0.07	ND	3.4	ND	ND	nt	nt	nt	nt	ND	ND	nt	nt	nt	ND	nt	nt	nt	nt	nt
02L4-MW02AW	3/10/2004	Landfill 4	0.35	3.0	1.0	0.65	33.4	90.9	4.5	28.3	0.91	0.22	0.16	144	ND	ND	nt	nt	nt	nt	2.3	19	nt	nt	nt	71	nt	nt	nt	nt	nt
02L4-MW02BW	3/10/2004	Landfill 4	0.19	0.43	0.15	0.16	3.8	5.4	1.6	2.5	0.05	0.07	0.04	7.7	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	120	nt	nt	nt	300	nt	nt	nt	nt	nt
02L4-MW03AW	3/11/2004	Landfill 4	0.05	0.04	0.04	ND	2.2	2.8	0.25	1.3	ND	ND	ND	3	ND	ND	nt	nt	nt	nt	ND	9.8	nt	nt	nt	100	nt	nt	nt	nt	nt
02L4-MW03BW	3/11/2004	Landfill 4	0.16	0.52	0.13	0.14	4.8	3.7	1.8	2.8	0.17	0.06	0.06	13.9	0.037	ND	nt	nt	nt	nt	ND	4.7	nt	nt	nt	36	nt	nt	nt	nt	nt
02L4-MW04AW	3/10/2004	Landfill 4	0.04	0.38	0.11	0.07	5.7	21.1	0.54	2.6	0.27	0.02	0.03	19.3	ND	ND	nt	nt	nt	nt	ND	0.72	nt	nt	nt	14	nt	nt	nt	nt	nt
02L4-MW05AW	3/11/2004	Landfill 4	0.13	3.7	1.4	0.62	36.6	113	7.5	26.4	0.14	0.09	0.06	177	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4.2	nt	nt	nt	39	nt	nt	nt	nt	laboratory-measured pH: 5.4;
02L4-MW07BW	3/10/2004	Landfill 4	0.04	0.13	ND	ND	2.6	0.24	0.03	1.9	0.10	ND	ND	0.38	ND	ND	nt	nt	nt	nt	ND	ND	nt	nt	nt	4	nt	nt	nt	nt	nt
02L4MW200W (field duplicate of 02L4-MW05AW)	3/11/2004	Landfill 4	0.16	4.6	1.9	0.96	48.4	149	10.4	34.7	0.15	0.14	0.09	291	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4.0	nt	nt	nt	39	nt	nt	nt	nt	laboratory-measured pH: 5.9;
02LCMW220W (field duplicate of 02LC-MW03SW)	3/17/2004	Lacamas Creek / Base Boundary	ND	0.47	ND	0.01	0.39	0.2	0.03	0.69	ND	ND	ND	0.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	< 2	44	chloride, 2 mg/L; nitrate, 0.3 mg/L
02LCMW210W (field rinsate; deionized water)	3/15/2004	Demo Area 3	ND	ND	ND	ND	0.66	0.18	0.02	0.32	ND	ND	ND	2.5	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
Trip Blank TB-1	3/11/2004	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: See VOC Table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	3/16/2004	Lacamas Creek	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.05	0.04	0.02	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.03	varies	varies	0.20 mg/L	0.80 mg/L	25 ug/L	0.49 ug/L	0.49 ug/L	2.5 ug/L	1.2 ug/L	0.96 ug/L	4 ug/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2			500	500	1000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
DETECT - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 5. DISSOLVED METALS AND TOC - 1st QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (ug/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
02LC-MW01SW	3/16/2004	Lacamas Cr.	ND	0.22	ND	0.02	0.47	0.23	0.03	1.0	ND	ND	ND	1.4	ND	<1.0
02LC-MW06DW	3/16/2004	Lacamas Cr.	ND	0.5	ND	0.03	0.56	0.25	0.03	2.3	0.18	ND	0.01	2.7	0.036	<1.0
02LC-MW02SW	3/16/2004	Lacamas Cr.	ND	0.67	ND	0.01	0.47	0.19	0.03	0.84	ND	0.03	ND	3.3	ND	<1.0
02LC-MW07DW	3/16/2004	Lacamas Cr.	0.19	0.67	ND	0.05	0.4	0.2	0.03	1.3	0.1	0.14	0.03	1.2	ND	<1.0
02LC-MW03SW	3/17/2004	Lacamas Cr.	0.16	0.42	ND	0.04	0.33	0.17	0.04	0.74	0.07	0.14	0.02	6.0	ND	<1.0
02LC-MW08DW	3/17/2004	Lacamas Cr.	ND	0.88	ND	0.01	0.38	0.21	0.04	0.9	0.12	ND	ND	0.84	ND	<1.0
02LC-MW04SW	3/16/2004	Lacamas Cr.	ND	0.1	ND	0.04	0.43	0.15	0.02	0.68	0.13	0.03	ND	1.5	ND	<1.0
02LC-MW09DW	3/16/2004	Lacamas Cr.	ND	1.5	ND	0.01	0.6	0.27	0.03	1.1	0.1	ND	ND	2.2	ND	<1.0
02LC-MW05SW	3/15/2004	Demo Area 3	ND	1.9	ND	0.1	0.86	0.3	0.03	1.1	0.28	ND	ND	ND	ND	nt
02LC-MW10DW	3/15/2004	Demo Area 3	0.09	0.8	ND	0.07	0.55	0.33	0.03	1.1	0.28	ND	ND	2.6	ND	nt
02LC-MW11SW	3/15/2004	Demo Area 3	ND	0.67	ND	0.26	0.6	0.93	0.02	2.5	0.44	ND	ND	4.1	ND	nt
02LC-MW12SW	3/15/2004	Demo Area 3	ND	3.4	ND	0.32	1.0	0.60	0.06	2.1	0.59	ND	0.01	5.4	ND	nt
02LC-MW13SW	3/15/2004	Demo Area 3	ND	1.7	ND	0.16	1.0	0.61	0.22	3.2	0.3	ND	0.02	2.0	ND	nt
02LC-MW14W	3/11/2004	Demo Area 2	ND	0.2	ND	0.16	1.3	2.1	0.17	1.1	0.17	0.02	0.01	4.1	ND	nt
02LC-MW15W	3/15/2004	Demo Area 2	ND	0.15	0.06	0.14	1.3	2.7	0.71	1.1	0.17	ND	ND	3.4	ND	nt
02LC-MW16W	3/15/2004	Demo Area 2	ND	3.2	ND	0.58	0.61	0.41	0.03	2.2	0.35	0.04	ND	1.6	ND	nt
02L4-MW01AW	3/10/2004	Landfill 4	0.4	0.08	0.22	0.22	1.2	0.23	0.24	2.6	0.15	0.2	0.22	4.7	ND	nt
02L4-MW01BW	3/10/2004	Landfill 4	0.13	0.03	0.07	0.07	1.1	0.16	0.08	1.3	0.04	0.07	0.06	0.9	ND	nt
02L4-MW02AW	3/10/2004	Landfill 4	ND	ND	0.07	0.44	1.1	0.29	0.01	2.2	0.66	0.03	ND	3.4	ND	nt
02L4-MW02BW	3/10/2004	Landfill 4	ND	ND	0.04	0.22	0.61	0.33	0.04	0.9	0.11	ND	ND	4.5	ND	nt
02L4-MW03AW	3/11/2004	Landfill 4	ND	ND	0.02	0.09	0.94	0.22	0.02	0.83	0.18	ND	ND	0.76	ND	nt
02L4-MW03BW	3/11/2004	Landfill 4	ND	ND	0.02	0.26	1.20	1.1	0.2	1.7	0.23	ND	ND	4.7	ND	nt
02L4-MW04AW	3/10/2004	Landfill 4	ND	ND	ND	0.07	1.2	0.14	0.18	1.2	0.17	ND	ND	2.6	ND	nt
02L4-MW05AW	3/11/2004	Landfill 4	ND	ND	0.01	0.14	0.7	0.15	0.02	1.4	0.16	ND	ND	3.7	ND	nt
02L4-MW07BW	3/10/2004	Landfill 4	ND	0.12	ND	0.15	1.3	0.27	0.04	1.8	0.18	ND	ND	1.6	ND	nt
02L4MW200W (field duplicate of 02L4-MW05AW)	3/10/2004	Landfill 4	ND	ND	0.01	0.56	0.60	0.13	0.01	1.6	0.15	ND	ND	2.0	ND	nt
02LCMW220W (field duplicate of 02LC-MW03SW)	3/17/2004	Lacamas Creek / Base Boundary	ND	0.43	ND	0.03	0.29	0.16	0.02	0.69	ND	0.03	ND	1.3	ND	<1.0
02LCMW210W (field rinsate; deionized water)	3/15/2004	Demo Area 3	ND	ND	ND	0.13	0.41	0.08	0.01	0.05	0.07	ND	ND	0.7	ND	nt
Lab detection limit			0.05	0.04	0.01	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.007	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE ORGANIC COMPOUNDS - 1st QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (ug/L)							
			1,1-Dichloroethene	Methylene chloride (see Note)	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Tetrachloroethene	Trichlorofluoromethane	Chloroform
02L4-MW02BW	3/10/2004	Landfill 4	30	ND	41	170	190	0.7 J	0.8 J	ND
02L4-MW05AW	3/11/2004	Landfill 4	ND	ND	ND	ND	ND	0.9 J	ND	ND
02L4MW200W (field duplicate of 02L4-MW05AW)	3/10/2004	Landfill 4	ND	ND	ND	ND	ND	0.8 J		ND
Trip Blank TB-1	3/11/2004	Landfill 4	ND	2.3	ND	ND	ND	ND	ND	ND
02LCMW210W (field rinsate; deionized water)	3/15/2004	Demo Area 3	ND	ND	ND	ND	ND	ND	ND	4.6
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	200	n/a	n/a		n/a

Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
ug/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride is a common laboratory solvent and may indicate laboratory contamination.

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 2nd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (ug/L)												VOCs	SVOCs	Petroleum Hydrocarbons			Ordnance Explosives Compounds (ug/L)		NG (ug/L)	PETN (ug/L)	Picric Acid (ug/L)	Perchlorate (ug/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
03LCMW01SW	6/15/04	Lacamas Cr.	ND	0.25	ND	ND	1.0	0.04	0.3	0.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	4	44	chloride, 1 mg/L
03LCMW06DW	6/15/04	Lacamas Cr.	0.63	0.64	0.19	0.10	1.5	0.42	0.31	1.2	0.18	0.19	0.19	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	44	chloride, 6 mg/L; sulfate, 6 mg/L
03LCMW02SW	6/15/04	Lacamas Cr.	ND	0.7	ND	ND	1.0	ND	ND	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	< 1.0	< 1.0	< 2	45	chloride, 2 mg/L
03LCMW07DW	6/15/04	Lacamas Cr.	0.15	0.7	ND	0.28	1.3	0.15	0.07	0.8	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	6	44	chloride, 2 mg/L; sulfate, 1 mg/L; nitrate 0.2 mg/L
03LCMW03SW	6/16/04	Lacamas Cr.	ND	0.49	ND	ND	0.89	ND	ND	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	7	42	chloride, 1 mg/L; nitrate, 0.3 mg/L
03LCMW08DW	6/16/04	Lacamas Cr.	0.12	1.1	ND	ND	1.1	0.09	0.08	0.4	ND	ND	ND	0.59	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	50	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 2 mg/L
03LCMW04SW	6/16/04	Lacamas Cr.	ND	0.51	0.16	0.05	8.0	6.1	1.5	5.4	ND	ND	ND	16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	190	38	chloride, 3 mg/L; nitrate, 1 mg/L
03LCMW09DW	6/16/04	Lacamas Cr.	0.14	3.0	0.29	0.36	26.1	16.4	3.5	15.6	0.05	0.04	0.04	26.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	400	54	chloride, 4 mg/L; nitrate, 0.4 mg/L; sulfate, 6 mg/L
03LCMW05SW	6/22/04	Demo Area 3	ND	1.6	ND	0.61	1.9	0.82	0.26	1.4	0.26	ND	ND	3.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW10DW	6/22/04	Demo Area 3	ND	0.89	0.01	0.34	1.8	0.63	0.39	1.3	0.28	ND	ND	3.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW11SW	6/22/04	Demo Area 3	ND	1.2	0.09	0.11	2.9	5.9	1.3	2.9	0.56	ND	ND	12.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW12SW	6/22/04	Demo Area 3	ND	1.7	ND	0.28	1.5	0.62	0.27	1.4	0.25	ND	ND	3.6	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW13SW	6/22/04	Demo Area 3	ND	3.7	ND	0.23	1.8	0.59	0.1	1.4	1.0	ND	ND	2.0	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW14W	6/16/04	Demo Area 2	0.03	1.3	0.16	ND	6.0	10.9	2.2	2.4	ND	ND	ND	9.0	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt
03LCMW15W	6/16/04	Demo Area 2	0.18	0.85	0.3	0.2	6.4	13.7	4.1	4.1	0.29	0.03	ND	56.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03LCMW16W	6/17/04	Demo Area 2	ND	3.7	ND	0.78	1.3	1.0	0.16	1.9	0.29	ND	ND	3.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03L4MW01AW	6/18/04	Landfill 4	ND	0.65	0.38	0.66	12.2	32.2	3.5	7.9	ND	ND	ND	62.8	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
03L4MW01BW	6/18/04	Landfill 4	ND	ND	0.02	0.48	2.5	0.53	0.07	0.85	0.16	ND	ND	2.7	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt
03L4MW02AW	6/18/04	Landfill 4	ND	0.23	0.18	0.43	7.8	12.4	0.49	5.4	0.27	ND	ND	14.4	ND	ND	nt	nt	nt	nt	3.2	26	ND	ND	nt	230	nt	nt	nt	nt	nt
03L4MW02BW	6/18/04	Landfill 4	ND	1.2	0.33	0.74	8.0	8.9	2.1	4.0	0.33	ND	ND	14.9	ND	Detect: See VOC Table	nt	nt	nt	nt	4.1	56	8.4	ND	nt	380	nt	nt	nt	nt	nt
03L4MW03AW	6/17/04	Landfill 4	0.04	0.18	0.14	0.21	2.8	1.7	0.27	1.3	0.4	0.84	0.06	2.4	ND	ND	nt	nt	nt	nt	ND	9.7	ND	ND	nt	120	nt	nt	nt	nt	nt
03L4MW03BW	6/23/04	Landfill 4	0.25	1.2	0.57	0.12	5.7	6.6	12.8	4.6	0.41	0.03	ND	21.6	0.037	ND	nt	nt	nt	nt	0.46	3.1	ND	ND	nt	38	nt	nt	nt	nt	nt
03L4MW04AW	6/18/04	Landfill 4	0.48	0.49	0.25	0.42	14.6	41.6	1.6	7.9	0.13	0.18	ND	55.8	ND	ND	nt	nt	nt	nt	ND	0.82	ND	ND	nt	14	nt	nt	nt	nt	nt
03L4MW05AW	6/18/04	Landfill 4	0.15	0.52	0.29	0.43	10.0	20.9	1.8	5.6	0.14	0.05	ND	24.4	ND	Detect: See VOC Table	nt	nt	nt	nt	0.75	4.8	ND	ND	nt	43	nt	nt	nt	nt	laboratory-measured pH: 5.4
03L4MW07BW	6/21/04	Landfill 4	ND	0.20	ND	0.04	1.7	0.18	0.02	1.4	0.23	ND	ND	0.95	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
03L4MW17W	6/21/04	Landfill 4	0.16	0.39	0.14	0.15	2.3	4.5	1.6	2.9	0.49	ND	ND	5.4	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	laboratory-measured pH: 7.5
03L4MW18W	6/21/04	Landfill 4	ND	2.5	1.3	1.2	**65.7**	138	9.4	52.1	0.11	0.07	0.02	130	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	laboratory-measured pH: 6.6
03LCMW110W (field duplicate of 03LCMW02SW)	6/15/2004	Lacamas Creek / Base Boundary	ND	0.6	ND	ND	1.0	0.42	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	44	chloride, 2 mg/L
03L4MW115SW (field duplicate of 03L4MW03AW)	6/17/2004	Landfill 4	0.37	0.08	0.05	0.08	2.6	1.4	0.16	1.2	0.15	0.1	ND	2.4	ND	ND	ND	ND	ND	nt	ND	9.1	ND	ND	ND	120	< 1.0	<1.0	< 2	44	nt
03LCMW120SW (field duplicate of 03LCMW05SW)	6/22/2004	Demo Area 3	ND	1.7	ND	0.08	1.7	0.2	0.53	1.2	0.25	ND	ND	2.6	ND	nt	nt	ND	ND	nt	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	< 2	44	nt
03LCMW220W (field rinsate; deionized water)	6/22/2004	Demo Area 3	ND	ND	ND	0.01	0.92	0.24	0.01	0.34	0.12	ND	ND	1.3	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	ND
Trip Blank TB-1W	6/15/2004	Lacamas Creek	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: See VOC Table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2W	6/21/2004	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: See VOC Table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.05	0.04	0.02	0.04	0.04	0.08	0.01	0.04	0.04	0.04	0.02	0.77	0.03	varies	varies	0.20 mg/L	0.82 mg/L	25 ug/L	0.49 ug/L	0.49 ug/L	2.5 ug/L	1.2 ug/L	0.96 ug/L	4 ug/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2			500	500	1000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
DETECT - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND TOC - 2nd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (ug/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
03LCMW01SW	6/15/04	Lacamas Cr.	0.03	0.25	ND	ND	0.94	0.1	0.05	0.5	ND	ND	ND	ND	ND	<1.0
03LCMW06DW	6/15/04	Lacamas Cr.	0.58	0.64	0.15	0.08	1.1	0.12	0.18	0.87	0.22	0.16	0.18	ND	ND	<1.0
03LCMW02SW	6/15/04	Lacamas Cr.	ND	0.64	ND	ND	1.2	0.21	ND	0.61	ND	ND	ND	ND	ND	<1.0
03LCMW07DW	6/15/04	Lacamas Cr.	0.1	0.78	ND	ND	0.96	ND	0.02	0.85	ND	ND	ND	ND	ND	<1.0
03LCMW03SW	6/16/04	Lacamas Cr.	ND	0.49	ND	ND	0.8	ND	ND	0.3	ND	ND	ND	ND	ND	<1.0
03LCMW08DW	6/16/04	Lacamas Cr.	0.13	1.0	ND	ND	0.91	ND	0.11	0.41	0.04	ND	ND	ND	ND	<1.0
03LCMW04SW	6/16/04	Lacamas Cr.	ND	0.09	ND	ND	0.94	0.14	ND	0.33	ND	ND	ND	0.38	ND	<1.0
03LCMW09DW	6/16/04	Lacamas Cr.	0.04	1.6	ND	ND	1.1	ND	ND	1.1	ND	ND	ND	1.5	ND	<1.0
03LCMW05SW	6/22/04	Demo Area 3	ND	2.1	ND	ND	1.3	0.26	0.01	1.1	0.26	ND	ND	1.2	ND	nt
03LCMW10DW	6/22/04	Demo Area 3	0.14	0.84	ND	ND	0.87	0.27	0.01	0.99	0.34	ND	ND	2.3	ND	nt
03LCMW11SW	6/22/04	Demo Area 3	ND	0.76	ND	ND	0.9	0.62	0.02	2.5	0.43	ND	ND	4.5	ND	nt
03LCMW12SW	6/22/04	Demo Area 3	ND	1.8	ND	ND	1.1	0.54	0.04	1.1	0.32	ND	ND	2.0	ND	nt
03LCMW13SW	6/22/04	Demo Area 3	ND	3.2	ND	ND	1.4	0.43	0.03	1.4	0.66	ND	ND	1.5	ND	nt
03LCMW14W	6/16/04	Demo Area 2	ND	0.15	ND	ND	1.2	2.1	0.13	0.51	ND	ND	ND	1.7	ND	nt
03LCMW15W	6/16/04	Demo Area 2	0.09	ND	0.04	ND	0.8	0.25	ND	0.61	0.05	0.04	ND	2.5	ND	nt
03LCMW16W	6/17/04	Demo Area 2	ND	3.6	ND	ND	0.88	0.14	0.01	1.8	0.29	ND	ND	2.2	ND	nt
03L4MW01AW	6/18/04	Landfill 4	ND	ND	ND	ND	1.2	0.16	0.03	1.6	0.28	ND	ND	3.7	ND	nt
03L4MW01BW	6/18/04	Landfill 4	ND	ND	0.01	ND	1.3	0.09	0.01	0.61	ND	ND	ND	1.4	ND	nt
03L4MW02AW	6/18/04	Landfill 4	ND	ND	0.06	ND	1.9	0.15	0.01	2.0	0.41	ND	ND	2.1	ND	nt
03L4MW02BW	6/18/04	Landfill 4	ND	0.97	0.24	0.13	3.5	0.15	0.05	1.9	0.23	ND	ND	9.4	ND	nt
03L4MW03AW	6/17/04	Landfill 4	ND	ND	0.02	ND	1.1	0.08	0.01	1.2	0.13	ND	ND	1.6	ND	nt
03L4MW03BW	6/23/04	Landfill 4	0.13	0.05	0.04	ND	1.5	0.28	0.04	4.7	0.33	ND	ND	3.7	ND	nt
03L4MW04AW	6/18/04	Landfill 4	ND	ND	0.02	0.06	1.2	0.17	0.11	3.7	0.2	ND	ND	3.0	ND	nt
03L4MW05AW	6/18/04	Landfill 4	ND	ND	0.02	ND	1.2	0.17	0.01	2.2	0.21	ND	ND	2.7	ND	nt
03L4MW07BW	6/21/04	Landfill 4	ND	0.21	ND	ND	1.4	0.09	ND	1.8	0.21	ND	ND	0.92	ND	nt
03L4MW17W	6/21/04	Landfill 4	0.13	0.25	ND	ND	0.91	1.2	0.05	1.7	0.59	ND	ND	0.85	ND	nt
03L4MW18W	6/21/04	Landfill 4	ND	0.06	ND	ND	1.2	0.09	0.03	2.6	0.11	ND	ND	1.0	ND	nt
03LCMW110W (field duplicate of 03LCMW02SW)	6/15/2004	Lacamas Creek / Base Boundary	ND	0.72	ND	ND	0.84	0.17	ND	0.23	ND	ND	ND	0.35	ND	<1.0
03L4MW115SW (field duplicate of 03L4MW03AW)	6/17/2004	Landfill 4	ND	ND	0.02	ND	1.1	0.11	ND	1.0	0.16	ND	ND	1.2	ND	<1.0
03LCMW120SW (field duplicate of 03LCMW05SW)	6/22/2004	Demo Area 3	0.54	2.0	ND	ND	1.5	0.24	0.01	1.5	0.36	0.15	ND	1.8	ND	nt
03LCMW220W (field rinsate; deionized water)	6/22/2004	Demo Area 3	ND	ND	ND	ND	0.68	0.12	0.01	0.10	0.08	ND	ND	1.3	ND	<1.0
Lab detection limit			0.05	0.04	0.01	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.007	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE ORGANIC COMPOUNDS - 2nd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (ug/L)									
			1,1-Dichloroethene	Methylene chloride (see Note)	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Tetrachloroethene	Trichlorofluoromethane	2-Butanone	Acetone (see Note)	Chloroform
02L4-MW02BW	6/18/2004	Landfill 4	27	ND	36	150	170	0.7 J	0.6 J	ND	59	ND
02L4-MW05AW	6/18/2004	Landfill 4	ND	ND	ND	ND	ND	0.8 J	ND	ND	ND	ND
02L4-MW17W	6/21/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND
02L4-MW18W	6/21/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND
03LCMW220W (field rinsate; deionized water)	6/22/2004	Demo Area 3	ND	ND	ND	ND	ND	0.8 J	ND	0.8 J	2.3	10
Trip Blank TB-1	6/15/2004	Base Boundary	ND	0.9J	ND	ND	ND	ND	ND	ND	ND	ND
Trip Blank TB-2	6/21/2004	Landfill 4	ND	2.2	ND	ND	ND	ND	ND	ND	4.2	ND
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	5.0	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	200	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
ug/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

DRAFT TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	**Date**	**Time**	**Depth to Water in Feet***	**Temp (degrees C)**	**Conductivity (µS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**	**Color and Relative Turbidity**	**Notes**
03LCMW01SW	6/15/04	1115	4.91	12.0	81	-	6.81	clear	
03LCMW06DW	6/15/04	1220	5.22	12.8	116	-	6.82	clear	
03LCMW02SW	6/15/04	1437	5.45	12.0	84	-	6.90	clear	
03LCMW07DW	6/15/04	1435	5.95	13.4	88	-	6.87	clear	
03LCMW03SW	6/16/04	1015	4.93	12.2	81	-	7.48	clear	
03LCMW08DW	6/16/04	1016	5.15	11.9	96	-	7.46	clear	
03LCMW04SW	6/16/04	1338	4.95	12.1	83	-	7.46	sl.cloudy	
03LCMW09DW	6/16/04	1405	5.73	12.7	118	-	7.48	clear	
03LCMW05SW	6/22/04	1332	6.95	12.1	155	-	-	clear	
03LCMW10DW	6/22/04	1400	0	12.1	138	-	-	clear	**See Notes**
03LCMW11SW	6/22/04	1255	7.29	11.3	315	-	-	sl.cloudy	Pumped dry during sampling
03LCMW12SW	6/22/04	1440	6.89	12.5	255	-	-	clear	
03LCMW13SW	6/22/04	1313	7.24	11.9	273	-	-	clear	
03LCMW14W	6/16/04	1520	5.29	11.8	33	-	7.09	cloudy	
03LCMW15W	6/17/04	1044	9.24	11.6	18	-	7.10	cloudy	
03LCMW16W	6/17/04	1120	7.10	12.0	357	-	7.09	clear	

DRAFT TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	**Date**	**Time**	**Depth to Water in Feet***	**Temp (degrees C)**	**Conductivity (µS/cm)**	**Dissolved Oxygen (mg/L)**	**pH**	**Color and Relative Turbidity**	**Notes**
03L4MW01AW	6/18/04	1019	16.45	11.8	69	-	-	cloudy, brown	
03L4MW01BW	6/18/04	1020	13.11	11.1	16	-	-	clear	
03L4MW02AW	6/18/04	1152	25.60	12.9	32	-	-	sl. cloudy	
03L4MW02BW	6/18/04	1150	30.54	13.0	62	-	-	cloudy	
03L4MW03AW	6/17/04	1406	27.86	12.5	14	-	-	sl. cloudy	
03L4MW03BW	6/23/04	1145	26.64	12.3	37	-	-	cloudy	Pumped dry during sampling
03L4MW04AW	6/18/04	1438	27.50	15.3	13	-	-	sl. cloudy	Very slow recovery
03L4MW05AW	6/18/04	1410	23.86	11.6	16	-	-	slightly red-brown	
03L4MW07BW	6/21/04	1115	39.60	11.3	25	-	-	clear	
03L4MW17W	6/21/04	1240	10.48	15.0	205	-	-	clear	
03L4MW18W	6/21/04	1205	11.63	12.3	119	-	-	silty, brown	

Notes:
* = depth in feet measured from top of well PVC casing.
- = parameter not measured in field
Water level in monitoring well LC-MW10D at top rim of steel casing when opened on 6/22/04.
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Sample Notes and Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	L4-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	L4-MW18

Notes:
* = screened interval reported on well completion logs
** = depth in feet measured from top of well PVC casing
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 3rd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (ug/L)												VOCs	SVOCs	Petroleum Hydrocarbons			Ordnance Explosives Compounds (ug/L)		NG (ug/L)	PETN (ug/L)	Picric Acid (ug/L)	Perchlorate (ug/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
04LCMW01SW	9/15/04	Lacamas Cr.	0.29	0.23	0.03	0.10	1.3	0.86	0.27	0.97	ND	0.09	0.01	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	14	47	chloride, 1 mg/L
04LCMW01DW	9/15/04	Lacamas Cr.	ND	0.4	ND	0.08	1.2	0.33	0.09	1.0	0.11	0.03	0.01	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	46	chloride, 6 mg/L; sulfate, 7 mg/L; laboratory-measured pH, 7.1
04LCMW02SW	9/15/04	Lacamas Cr.	ND	0.55	ND	0.1	0.7	0.23	0.06	0.51	ND	0.03	ND	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 (false positive; see Report)	< 1.0	< 1.0	< 2	44	chloride, 2 mg/L
04LCMW02DW	9/16/04	Lacamas Cr.	0.28	0.66	ND	0.21	2.8	0.28	0.06	1.9	ND	0.08	0.01	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	46	chloride, 2 mg/L; sulfate, 1 mg/L; nitrate 0.2 mg/L
04LCMW03SW	9/20/04	Lacamas Cr.	ND	0.44	ND	0.13	1.1	0.16	0.04	0.7	ND	0.03	ND	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	44	chloride, 2 mg/L; nitrate, 0.2 mg/L
04LCMW03DW	9/20/04	Lacamas Cr.	ND	0.91	ND	0.25	1.1	0.21	0.05	0.77	ND	ND	ND	0.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	50	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 2 mg/L
04LCMW04SW	9/20/04	Lacamas Cr.	0.14	0.16	0.06	0.3	3.0	1.8	0.43	2.1	ND	0.07	0.02	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	26	40	chloride, 2 mg/L; nitrate, 0.8 mg/L
04LCMW04DW	9/20/04	Lacamas Cr.	0.66	1.4	ND	0.15	2.4	0.64	0.15	1.5	ND	0.19	0.03	1.9	ND	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	6	55	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 3 mg/L
04LCMW05SW	9/14/04	Demo Area 3	ND	1.5	ND	0.06	2.1	0.65	0.18	1.6	0.11	0.05	ND	1.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW05DW	9/14/04	Demo Area 3	0.27	1.3	0.11	0.23	3.8	1.3	2.8	2.5	0.28	0.13	0.03	13.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW06SW	9/14/04	Demo Area 3	0.32	1.1	0.12	0.14	4.5	7.8	2.2	3.9	0.23	0.11	0.03	40.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW07SW	9/14/04	Demo Area 3	0.12	4.2	0.2	0.23	11.3	19.0	2.3	6.8	0.31	0.1	0.03	17.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW08SW	9/14/04	Demo Area 3	0.64	1.7	ND	0.12	1.3	0.58	0.1	1.1	0.2	0.22	0.04	1.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW09SW	9/15/04	Demo Area 2	ND	2.0	0.43	0.27	10.6	20.4	4.2	5.2	0.34	0.04	0.02	26.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
04LCMW10SW	9/15/04	Demo Area 2	ND	2.6	0.76	0.35	13.2	36.1	7.8	9.7	0.62	0.06	0.05	42.6	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	laboratory-measured pH: 5.7
04LCMW11SW	9/15/04	Demo Area 2	0.1	4.4	0.03	0.33	2.9	7.8	1.0	3.3	0.36	0.07	ND	5.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
04L4MW01AW	9/21/04	Landfill 4	0.26	0.21	0.12	0.17	5.2	10.1	0.84	3.4	0.16	0.1	0.02	41.1	ND	ND	nt	nt	nt	ND	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
04L4MW01BW	9/21/04	Landfill 4	ND	0.15	0.13	0.3	7.7	9.6	1.1	4.4	ND	0.13	ND	9.4	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
04L4MW02AW	9/21/04	Landfill 4	ND	0.31	0.24	0.29	8.5	17.2	0.69	6.6	0.25	0.03	0.1	39.9	ND	ND	nt	nt	nt	nt	3.3	30	ND	ND	nt	220	nt	nt	nt	nt	nt
04L4MW02BW	9/21/04	Landfill 4	ND	0.6	0.23	0.45	1.6	2.4	0.24	2.2	1.9	ND	ND	7.6	ND	Detect: See VOC Table	nt	nt	nt	nt	3.1	72	ND	ND	nt	320	nt	nt	nt	nt	nt
04L4MW03AW	9/21/04	Landfill 4	ND	0.05	0.08	0.42	3.6	5.9	0.62	2.0	ND	0.03	0.01	6.9	ND	ND	nt	nt	nt	nt	ND	10	ND	ND	nt	110	nt	nt	nt	nt	nt
04L4MW03BW	9/21/04	Landfill 4	ND	1.2	0.07	0.55	5.6	2.3	0.74	3.6	0.25	0.03	0.01	39.9	0.037	ND	nt	nt	nt	nt	ND	2	ND	ND	nt	39	nt	nt	nt	nt	nt
04L4MW04AW	9/21/04	Landfill 4	ND	0.26	0.15	0.46	8.4	24.5	0.64	4.2	ND	0.05	0.04	22.8	ND	ND	nt	nt	nt	nt	ND	0.68	ND	ND	nt	13	nt	nt	nt	nt	nt
04L4MW05AW	9/21/04	Landfill 4	ND	ND	0.05	0.15	3.3	2.6	0.27	1.8	ND	0.03	ND	4.3	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	3.8	ND	ND	nt	38	nt	nt	nt	nt	nt
04L4MW07BW	9/16/04	Landfill 4	ND	0.18	0.03	0.16	4.1	3.2	0.06	2.9	ND	ND	ND	3.8	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
04L4MW17W	9/16/04	Landfill 4	ND	0.58	0.03	0.09	1.3	2.6	0.77	2.5	0.22	ND	0.01	2.8	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
04L4MW18W	9/16/04	Landfill 4	ND	0.93	0.47	0.36	24.8	49.1	3.8	19.5	0.24	0.06	0.04	33.8	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
04LCMW125SW (field duplicate of 04LCMW02DW)	9/16/04	Lacamas Cr.	0.08	0.62	ND	0.3	2.5	43.0	1.6	1.7	ND	0.04	ND	24.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 2	45	chloride, 2 mg/L; sulfate, 1 mg/L
04LCMW130SW (field duplicate of 04LCMW05DW)	9/14/04	Demo Area 3	0.17	1.4	0.13	0.25	3.6	1.3	3.6	2.3	0.36	0.13	0.03	14.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
04L4MW135SW (field duplicate of 04L4MW07BW)	9/16/04	Landfill 4	ND	0.25	0.02	0.09	4.7	3.7	0.24	3.1	ND	ND	ND	4.6	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
04LCMW03DW (MS/MSD) (duplicate of 04LCMW03DW)	9/20/04	Lacamas Cr.	ND	0.91	ND	0.25	1.1	0.21	0.05	0.77	ND	ND	ND	0.91	ND	nt	nt	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	< 2	50	nt
04L4MW230W (field rinsate; deionized water)	9/21/04	Landfill 4	ND	ND	ND	0.26	0.83	0.26	0.06	0.27	ND	0.06	ND	1.1	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	< 2	3	ND
Trip Blank TB-1W	9/15/04	Lacamas Creek	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2W	9/16/04	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: See VOC Table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.04	0.02	0.04	0.04	0.08	0.01	0.04	0.04	0.04	0.02	0.77	0.03	varies	varies	0.20 mg/L	0.82 mg/L	25 ug/L	0.49 ug/L	0.49 ug/L	2.5 ug/L	1.2 ug/L	0.96 ug/L	1.0 ug/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2			500	500	1000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND TOC - 3rd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (ug/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
04LCMW01SW	9/15/04	Lacamas Cr.	ND	0.21	ND	0.05	0.51	0.18	0.05	0.7	ND	ND	ND	1.7	ND	<1.0
04LCMW01DW	9/15/04	Lacamas Cr.	ND	0.37	ND	0.06	0.64	0.34	0.16	1.3	ND	ND	0.02	2.0	ND	<1.0
04LCMW02SW	9/15/04	Lacamas Cr.	ND	0.5	ND	0.13	0.44	0.18	0.07	0.56	ND	0.03	ND	1.4	ND	<1.0
04LCMW02DW	9/15/04	Lacamas Cr.	ND	0.72	ND	0.1	1.2	0.19	0.06	2.4	ND	ND	ND	1.0	ND	<1.0
04LCMW03SW	9/20/04	Lacamas Cr.	ND	0.45	ND	0.48	0.88	0.16	0.05	0.73	ND	ND	ND	3.1	ND	<1.0
04LCMW03DW	9/20/04	Lacamas Cr.	ND	0.9	ND	0.14	0.87	0.16	0.03	0.84	0.11	ND	ND	1.4	ND	<1.0
04LCMW04SW	9/20/04	Lacamas Cr.	0.09	0.12	ND	0.09	0.89	0.17	0.03	0.59	ND	0.05	ND	2.5	ND	<1.0
04LCMW04DW	9/20/04	Lacamas Cr.	0.63	1.4	0.02	0.04	0.9	0.29	0.05	1.2	ND	0.18	0.02	3.2	ND	<1.0
04LCMW05SW	9/14/04	Demo Area 3	0.37	1.7	ND	0.07	1.0	0.31	0.07	1.3	ND	0.09	0.01	1.3	ND	nt
04LCMW05DW	9/14/04	Demo Area 3	0.3	0.77	ND	0.17	0.92	0.42	0.08	1.6	0.25	0.07	0.02	12.1	ND	nt
04LCMW06SW	9/14/04	Demo Area 3	0.84	0.66	ND	0.08	0.56	0.77	0.08	1.6	0.25	0.22	0.03	3.3	ND	nt
04LCMW07SW	9/14/04	Demo Area 3	0.24	4.0	ND	0.07	1.3	0.39	0.06	1.1	0.25	0.08	0.01	1.2	ND	nt
04LCMW08SW	9/14/04	Demo Area 3	0.7	1.5	ND	0.08	0.8	0.41	0.06	0.97	ND	0.21	0.04	1.2	ND	nt
04LCMW09SW	9/15/04	Demo Area 2	0.25	0.05	ND	0.11	0.56	0.66	0.07	0.77	ND	0.07	ND	3.9	ND	nt
04LCMW10SW	9/15/04	Demo Area 2	0.08	0.22	0.03	0.31	1.0	1.7	0.32	0.8	ND	0.04	ND	3.5	ND	nt
04LCMW11SW	9/15/04	Demo Area 2	ND	3.8	ND	0.06	0.73	0.37	0.07	2.0	0.18	ND	ND	3.3	ND	nt
04L4MW01AW	9/21/04	Landfill 4	ND	ND	0.03	0.22	1.0	0.18	0.06	1.6	ND	ND	ND	3.2	ND	nt
04L4MW01BW	9/21/04	Landfill 4	ND	ND	ND	0.17	4.9	0.29	0.03	0.83	ND	ND	ND	3.1	ND	nt
04L4MW02AW	9/21/04	Landfill 4	ND	ND	0.04	0.18	1.4	0.35	0.08	1.7	0.11	ND	ND	3.2	ND	nt
04L4MW02BW	9/21/04	Landfill 4	ND	0.6	0.28	0.28	1.6	0.39	0.16	2.2	2.0	ND	ND	14.0	ND	nt
04L4MW03AW	9/21/04	Landfill 4	ND	ND	0.03	0.04	1.3	0.2	0.12	1.2	ND	ND	ND	3.0	ND	nt
04L4MW03BW	9/21/04	Landfill 4	ND	ND	ND	0.19	2.1	0.41	0.15	2.3	ND	ND	0.01	3.7	ND	nt
04L4MW04AW	9/21/04	Landfill 4	0.27	ND	ND	0.1	2.0	5.0	0.15	2	ND	0.07	ND	3.6	ND	nt
04L4MW05AW	9/21/04	Landfill 4	ND	ND	0.02	0.11	1.6	0.25	0.04	1.2	ND	0.03	0.01	4.3	ND	nt
04L4MW07BW	9/16/04	Landfill 4	ND	0.11	ND	0.12	1.3	0.26	0.06	2.1	ND	ND	ND	0.86	ND	nt
04L4MW17W	9/16/04	Landfill 4	ND	0.88	ND	0.08	0.72	0.46	0.14	2.3	0.18	ND	ND	1.3	ND	nt
04L4MW18W	9/16/04	Landfill 4	ND	0.05	ND	0.07	1.4	0.19	0.04	1.9	ND	ND	ND	0.8	ND	nt
04LCMW125SW (field duplicate of 04LCMW02DW)	9/16/04	Lacamas Cr.	ND	0.65	ND	0.15	1.1	0.23	0.07	1.9	ND	ND	ND	1.80	ND	<1.0
04LCMW130SW (field duplicate of 04LCMW05DW)	9/14/04	Demo Area 3	0.17	0.82	ND	0.18	0.82	0.54	0.1	1.2	0.3	0.03	0.01	11.50	ND	nt
04L4MW135SW (field duplicate of 04L4MW07BW)	9/16/04	Landfill 4	ND	0.16	ND	0.1	1.1	0.19	0.11	1.8	ND	ND	ND	0.91	ND	nt
04LCMW03DW (MS/MSD) (duplicate of 04LCMW03DW)	9/20/04	Lacamas Cr.	ND	0.88	ND	0.14	0.87	0.16	0.03	0.84	0.11	ND	ND	1.38	ND	<1.0
04L4MW230W (field rinsate; deionized water)	9/21/04	Landfill 4	ND	ND	ND	0.07	0.83	0.19	0.14	0.36	ND	ND	ND	4.2	ND	<1.0
Lab detection limit			0.05	0.04	0.01	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.03	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (ug/L)			1.4 - 8		0.02			592		320	80	80	1.1	4800	4800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 3rd QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (ug/L)															SVOC (ug/l)
			1,1-Dichloroethene	Chloromethane	Methylene chloride (see Note)	1,1-Dichloroethene	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Benzene	Tetrachloroethene	Trichlorofluoromethane	2-Butanone	Carbon Disulfide	Bromomethane	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
04L4MW02BW	9/21/2004	Landfill 4	27	1.8	ND	30	41	140	160	0.6 (J)	1.1	0.6 (J)	3.4 (J)	ND	7.7	11	ND	ND
04L4MW05AW	9/21/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND
04L4MW17W	9/16/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	3.4 (J)	ND	ND
04LCMW04DW	9/20/2004	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0 (J)
04L4MW230W (field rinsate; deionized water)	9/21/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.1 (J)	1.3	1.3
Trip Blank TB-1	9/15/2004	Base Boundary	ND	ND	0.9 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trip Blank TB-2	9/16/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0 (J)	ND	ND
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	ND	ND	5.0	1.0	1.0
WA MTCA Method A Cleanup Levels (ug/L)			n/a	5	5	n/a	n/a	200	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
ug/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	Date	Time	Depth to Water in Feet*	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
04LCMW01SW	9/15/2004	1320	6.00	13.3	84	42	7.02	clear	
04LCMW01DW	9/15/2004	1340	6.50	12.8	111	56	7.07	clear	
04LCMW02SW	9/15/2004	1420	7.15	12.5	81	41	6.96	clear	
04LCMW02DW	9/16/2004	1510	7.45	12.5	86	43	7.08	clear	
04LCMW03SW	9/20/2004	1200	5.62	12.5	81	41	6.90	clear	
04LCMW03DW	9/20/2004	1220	6.26	11.6	93	47	6.96	clear	
04LCMW04SW	9/20/2004	1325	5.62	12.2	82	41	6.4	red-brown	
04LCMW04DW	9/20/2004	1305	6.25	11.9	109	55	7.21	red-brown	
04LCMW05SW	9/14/2004	1405	9.42	13.2	160	82	7.65	clear	
04LCMW05DW	9/14/2004	1340	0.50	12.1	142	71	7.38	clear	artesian
04LCMW06SW	9/14/2004	1430	12.40	12.6	270	138	6.94	clear	
04LCMW07SW	9/14/2004	1240	9.28	11.5	219	111	7.88	clear	
04LCMW08SW	9/14/2004	1315	9.26	12.7	222	112	7.08	clear	
04LCMW09SW	9/15/2004	1015	5.45	13.9	34	17	6.07	slightly brown	
04LCMW10SW	9/15/2004	1050	10.15	12.1	22	11	5.56	slightly brown	
04LCMW11SW	9/15/2004	1115	7.70	12.5	408	208	6.77	slightly gray	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling						
Sample No.	Date	Time	Depth to Water in Feet*	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
04L4MW01AW	9/21/2004	1455	16.87	11.2	37	18	7.07	clear	
04L4MW01BW	9/21/2004	1435	14.02	10.8	19	9	6.19	clear	
04L4MW02AW	9/21/2004	1210	27.65	10.7	26	12	7.08	red-brown	
04L4MW02BW	9/21/2004	1140	32.62	11.9	145	73	7.08	clear	
04L4MW03AW	9/21/2004	1410	29.46	11.5	14	7	5.54	red-brown	
04L4MW03BW	9/21/2004	1340	26.93	11.0	30	14	7.08	slightly brown	
04L4MW04AW	9/21/2004	1240	27.60	11.0	15	7	7.08	clear	slow recharge
04L4MW05AW	9/21/2004	1315	24.20	10.3	17	9	7.08	clear	
04L4MW07BW	9/16/2004	1250	40.32	11.1	30	15	7.08	slightly brown	
04L4MW17W	9/16/2004	1135	10.86	14.9	259	132	7.07	slightly brown	
04L4MW18W	9/16/2004	1215	11.88	12.5	121	60	7.07	red-brown	

Notes:
* = depth in feet measured from top of well PVC casing.
- = parameter not measured in field
Water level in monitoring well LC-MW05D was 0.5 inches below top rim of steel casing when opened on 9/14/2004. .
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = screened interval reported on well completion logs
** = depth in feet measured from top of well PVC casing
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 4th QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
05LCMW01SW	12/8/2004	Lacamas Cr.	0.04	0.31	0.02	0.05	0.7	0.3	0.05	0.93	0.36	0.18	0.11	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 1 mg/L
05LCMW01DW	12/8/2004	Lacamas Cr.	ND	0.51	ND	0.25	1.1	0.78	0.22	1.6	0.34	ND	0.12	2.8	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 4 mg/L; sulfate, 5 mg/L
05LCMW02SW	12/8/2004	Lacamas Cr.	ND	0.19	ND	0.28	1.2	0.65	0.19	1.4	0.19	ND	0.06	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	29	46	chloride, 2 mg/L
05LCMW02DW	12/8/2004	Lacamas Cr.	ND	0.77	ND	0.9	1.4	0.74	0.45	2.0	0.53	ND	0.06	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	4	45	chloride, 2 mg/L; sulfate, 1 mg/L; nitrate 0.2 mg/L
05LCMW03SW	12/3/2004	Lacamas Cr.	ND	0.39	ND	0.32	0.95	0.32	0.5	0.73	ND	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	44	chloride, 1 mg/L; nitrate, 0.2 mg/L
05LCMW03DW	12/3/2004	Lacamas Cr.	ND	0.79	ND	0.03	1.2	0.46	0.15	1.0	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	48	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 1 mg/L
05LCMW04SW	12/3/2004	Lacamas Cr.	ND	0.3	0.09	0.26	4.8	4.0	1.0	3.8	ND	ND	0.04	12.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	47	40	chloride, 2 mg/L; nitrate, 0.9 mg/L
05LCMW04DW	12/3/2004	Lacamas Cr.	ND	1.1	ND	0.25	2.0	0.98	0.69	1.6	0.12	ND	0.01	6.3	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	7	50	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 2 mg/L
05LCMW05SW	12/2/2004	Demo Area 3	0.67	1.6	ND	0.33	2.0	0.91	0.47	1.9	0.22	0.12	0.01	6.0	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW05DW	12/2/2004	Demo Area 3	ND	1.1	0.06	0.09	1.7	1.9	1.4	1.3	0.11	ND	0.02	4.6	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW06SW	12/2/2004	Demo Area 3	0.71	1.4	0.06	0.09	1.6	2.4	0.66	2.6	0.2	0.04	0.02	4.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW07SW	12/2/2004	Demo Area 3	ND	2.3	ND	2.4	1.8	1.1	0.6	1.6	0.48	ND	0.04	4.8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW08SW	12/2/2004	Demo Area 3	ND	1.6	ND	0.34	0.93	0.63	0.19	1.3	ND	ND	0.06	1.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW09SW	12/2/2004	Demo Area 2	ND	4.8	0.28	0.49	28.4	76.4	7.0	13.7	0.9	ND	0.05	48.0	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW10SW	12/2/2004	Demo Area 2	ND	0.32	0.11	0.28	3.0	7.1	1.2	1.9	ND	ND	0.02	10.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05LCMW11SW	12/3/2004	Demo Area 2	0.22	4.0	ND	0.09	1.6	3.6	0.45	2.8	0.17	0.03	ND	4.1	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05L4MW01AW	12/7/2004	Landfill 4	ND	0.92	0.37	0.40	9.7	27.8	2.8	6.7	1.1	0.04	0.19	32.1	ND	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
05L4MW01BW	12/7/2004	Landfill 4	ND	0.13	0.03	0.06	1.8	0.93	0.14	0.72	0.44	ND	0.14	1.6	ND	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
05L4MW02AW	12/6/2004	Landfill 4	ND	0.35	0.11	0.56	2.8	5.5	0.28	1.8	0.1	ND	0.18	10.5	ND	ND	nt	nt	nt	nt	nt	3.4	30	ND	ND	nt	230	nt	nt	nt	nt	nt
05L4MW02BW	12/6/2004	Landfill 4	ND	2.3	0.21	0.86	3.3	2.3	0.46	4.1	0.05	ND	0.16	9.1	ND	Detect: See VOC Table	nt	nt	nt	nt	nt	2.5	64	3.7	ND	nt	310	nt	nt	nt	nt	nt
05L4MW03AW	12/6/2004	Landfill 4	0.75	0.71	0.06	1.1	1.7	0.26	1.2	ND	0.06	0.26	2.9	ND	ND	nt	nt	nt	nt	nt	ND	10	ND	ND	nt	110	nt	nt	nt	nt	nt
05L4MW03BW	12/6/2004	Landfill 4	ND	0.54	0.12	0.67	3.5	4.5	2.0	2.3	0.11	ND	0.21	11.4	ND	ND	nt	nt	nt	nt	nt	ND	3.6	ND	ND	nt	46	nt	nt	nt	nt	nt
05L4MW04AW	12/6/2004	Landfill 4	ND	0.82	0.19	2.1	11.6	36.4	2.1	7.0	0.14	0.08	0.23	32.7	ND	ND	nt	nt	nt	nt	nt	ND	0.91	ND	ND	nt	16	nt	nt	nt	nt	nt
05L4MW05AW	12/6/2004	Landfill 4	ND	0.38	0.15	0.29	4.0	10.0	0.7	2.7	0.89	ND	0.17	14.6	ND	Detect: See VOC Table	nt	nt	nt	nt	nt	ND	3.7	ND	ND	nt	39	nt	nt	nt	nt	nt
05L4MW07BW	12/7/2004	Landfill 4	ND	0.80	ND	0.07	0.77	0.52	0.09	0.97	0.56	ND	0.13	2.7	ND	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
05L4MW17W	12/7/2004	Landfill 4	ND	0.77	ND	0.07	0.78	0.42	0.29	0.99	0.41	ND	0.12	1.1	ND	Detect: See VOC Table	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
05L4MW18W	12/7/2004	Landfill 4	ND	ND	ND	0.13	0.68	0.62	0.15	0.33	0.27	ND	0.11	2.6	ND	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
05LCMW150W (field duplicate of 05LCMW07SW)	12/2/2004	Lacamas Cr.	ND	2.3	ND	1.7	1.5	1.1	0.42	1.5	0.37	ND	0.04	3.5	ND	nt	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
05L4MW155W (field duplicate of 05L4MW02BW)	12/6/2004	Landfill 4	0.47	2.4	0.21	1.0	3.3	2.2	0.51	4.1	7.8	0.05	0.17	9.4	0.034	Detect: See VOC Table	nt	nt	nt	nt	nt	2.5	65	3.9	ND	ND	300	nt	nt	nt	nt	nt
05LCMW145W (field duplicate of 05LCMW02SW)	12/8/2004	Lacamas Cr.	0.21	0.8	0.39	0.33	17	39.3	3.6	14.9	0.42	0.1	0.13	36.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	2	45	chloride, 2 mg/L
05LCMW235W (field rinsate; deionized water)	12/8/2004		ND	1.4	0.04	0.08	1.4	3.3	0.64	4.4	0.72	ND	0.08	3.5	ND	Detect: See VOC Table	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	2	4	nitrate, 0.3 mg/L
Trip Blank TB-1	12/3/2004		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	12/6/2004		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.04	0.02	0.04	0.04	0.08	0.01	0.04	0.04	0.04	0.02	0.77	0.03	varies	varies	0.20 mg/L	0.82 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0-2.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND TOC - 4th QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
05LCMW01SW	12/8/2004	Lacamas Cr.	0.87	0.26	0.15	0.09	0.63	0.19	0.03	0.7	ND	0.17	0.03	1.6	ND	<1.0
05LCMW01DW	12/8/2004	Lacamas Cr.	ND	0.45	ND	0.04	0.61	0.33	0.05	1.1	0.22	ND	0.02	2.9	ND	<1.0
05LCMW02SW	12/8/2004	Lacamas Cr.	ND	0.52	ND	0.04	0.72	0.64	0.04	0.67	ND	ND	ND	2.9	ND	<1.0
05LCMW02DW	12/8/2004	Lacamas Cr.	ND	0.55	ND	0.13	0.94	0.23	0.13	1.2	ND	ND	ND	1.5	ND	<1.0
05LCMW03SW	12/3/2004	Lacamas Cr.	ND	0.40	ND	0.03	0.6	0.26	0.05	0.8	ND	ND	ND	2.9	ND	<1.0
05LCMW03DW	12/3/2004	Lacamas Cr.	ND	0.9	ND	0.03	0.68	0.22	0.04	0.87	ND	ND	ND	3.9	ND	<1.0
05LCMW04SW	12/3/2004	Lacamas Cr.	ND	0.06	ND	0.21	0.69	0.21	0.02	0.67	ND	ND	ND	2.9	ND	<1.0
05LCMW04DW	12/3/2004	Lacamas Cr.	ND	1.3	ND	0.03	1.0	0.44	0.05	1.5	ND	ND	ND	2.3	ND	<1.0
05LCMW05SW	12/2/2004	Demo Area 3	ND	1.4	ND	0.21	1.1	0.51	0.12	1.5	ND	ND	ND	3.9	ND	nt
05LCMW05DW	12/2/2004	Demo Area 3	0.94	0.83	ND	0.03	0.68	0.39	0.12	1.3	ND	0.13	0.02	3.2	ND	nt
05LCMW06SW	12/2/2004	Demo Area 3	ND	0.92	ND	0.04	0.83	1.1	0.13	2.2	0.12	ND	0.01	3.7	ND	nt
05LCMW07SW	12/2/2004	Demo Area 3	ND	3.5	ND	0.03	1.2	0.50	0.04	1.5	ND	ND	0.02	1.4	ND	nt
05LCMW08SW	12/2/2004	Demo Area 3	ND	1.4	ND	0.16	0.7	0.54	0.05	1.4	ND	ND	0.08	1.9	ND	nt
05LCMW09SW	12/2/2004	Demo Area 2	ND	0.11	ND	0.04	0.66	0.2	0.08	0.77	ND	ND	0.02	1.0	ND	nt
05LCMW10SW	12/2/2004	Demo Area 2	0.15	ND	ND	0.08	0.7	0.44	0.03	0.71	ND	ND	ND	5.4	ND	nt
05LCMW11SW	12/3/2004	Demo Area 2	ND	3.6	ND	0.03	0.57	0.28	0.05	2.2	ND	ND	ND	2.9	ND	nt
05L4MW01AW	12/7/2004	Landfill 4	ND	ND	0.15	0.15	0.8	0.34	0.04	0.78	ND	ND	ND	4.9	ND	nt
05L4MW01BW	12/7/2004	Landfill 4	ND	ND	0.03	0.02	1.1	0.11	0.02	0.31	ND	ND	ND	1.5	ND	nt
05L4MW02AW	12/6/2004	Landfill 4	ND	ND	0.05	0.25	0.9	0.19	0.06	0.7	ND	ND	ND	2.4	ND	nt
05L4MW02BW	12/6/2004	Landfill 4	ND	1.1	0.22	0.17	2.3	0.74	0.10	2.7	3.9	ND	ND	7.1	0.034	nt
05L4MW03AW	12/6/2004	Landfill 4	ND	ND	0.03	0.31	0.89	0.61	0.03	0.62	ND	ND	ND	2.4	ND	nt
05L4MW03BW	12/6/2004	Landfill 4	ND	ND	0.03	0.16	0.9	0.32	0.09	1.2	ND	ND	0.01	5.5	ND	nt
05L4MW04AW	12/6/2004	Landfill 4	ND	0.04	0.04	0.48	2.3	2.6	0.21	2.4	0.23	ND	ND	4.2	ND	nt
05L4MW05AW	12/6/2004	Landfill 4	ND	ND	0.03	0.10	0.75	0.21	0.03	0.5	ND	ND	ND	3.0	ND	nt
05L4MW07BW	12/7/2004	Landfill 4	ND	0.08	0.02	0.14	2.0	0.37	0.05	1.7	ND	ND	ND	1.8	ND	nt
05L4MW17W	12/7/2004	Landfill 4	ND	1.3	0.04	0.02	0.72	0.55	0.11	2.9	0.26	ND	0.01	1.8	ND	nt
05L4MW18W	12/7/2004	Landfill 4	ND	0.04	0.03	0.02	1.5	0.28	0.05	1.3	ND	ND	ND	1.4	ND	nt
05LCMW150W (field duplicate of 05LCMW07SW)	12/2/2004	Lacamas Cr.	ND	3.5	ND	0.02	1.3	0.47	0.03	1.4	0.13	ND	0.03	0.89	ND	nt
05L4MW155W (field duplicate of 05L4MW02BW)	12/6/2004	Landfill 4	ND	1.4	0.2	0.16	2.90	0.98	0.06	2.9	4.9	ND	ND	8.2	ND	nt
0LCMW145W (field duplicate of 05LCMW02SW)	12/8/2004	Lacamas Cr.	ND	0.53	0.05	0.05	0.71	0.32	0.03	0.7	ND	ND	ND	1.4	ND	<1.0
05LCMW235W (field rinsate; deionized water)	12/8/2004		ND	ND	ND	ND	0.64	0.17	0.09	0.29	ND	ND	ND	1.3	ND	<1.0
Lab detection limit			0.05	0.04	0.01	0.04	0.04	0.08	0.05	0.04	0.04	0.04	0.02	0.77	0.03	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 4th QUARTER 2004
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)																SVOC (µg/l)
			1,1-Dichloroethene	Chloromethane	Methylene chloride (see Note)	1,1-Dichloroethane	Bromodichloromethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Benzene	Tetrachloroethene (PCE)	4-Methyl-2-pentanone (MIBK)	Trichlorofluoromethane	2-Butanone	Carbon Disulfide	Bromomethane	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
05L4MW02BW	12/6/2004	Landfill 4	24	ND	ND	37	ND	110	160	0.5 (J)	0.8 (J)	0.7 (J)	ND	4.9 (J)	0.8 (J)	ND	20	ND	ND
05L4MW05AW	12/6/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND
05L4MW17W	12/7/2004	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2 (J)	ND	ND	6.6	ND	ND
05LCMW01DW	12/8/2004	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0 (J)
05LCMW04DW	12/3/2004	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0 (J)
05L4MW155W (field duplicate of 05L4MW02BW)	12/6/2004	Landfill 4	21	ND	ND	34	ND	100	130	0.5 (J)	0.7 (J)	0.6 (J)	4.8 (J)	ND	0.7 (J)	ND	20	ND	ND
05L4MW235W (field rinsate; deionized water)	12/8/2004	Landfill 4	ND	ND	ND	ND	0.6 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.1 (J)	1.3	2.0 (J)
Trip Blank TB-1	12/3/2004		ND	ND	0.9 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trip Blank TB-2	12/6/2004		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0 (J)	ND	ND
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	ND	ND	5.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	5	n/a	n/a	200	n/a	5	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4th QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
05LCMW01SW	12/8/2004	0955	3.79	286.37	10.3	84	42	6.67	clear	
05LCMW01DW	12/8/2004	1030	3.20	287.05	9.6	103	52	7.07	clear	
05LCMW02SW	12/8/2004	1130	4.40	286.79	11.7	82	45	7.08	clear	pH malfunction
05LCMW02DW	12/8/2004	1155	4.98	286.61	11.4	88	44	6.96	clear	
05LCMW03SW	12/3/2004	1150	4.46	286.45	11.9	82	41	6.89	clear	
05LCMW03DW	12/3/2004	1215	4.62	286.36	11.1	96	48	6.91	clear	
05LCMW04SW	12/3/2004	1040	4.44	287.19	11.3	81	41	6.34	slightly cloudy	
05LCMW04DW	12/3/2004	1115	3.08	288.71	11.3	101	51	7.25	clear	
05LCMW05SW	12/2/2004	1125	6.54	303.56	11.4	163	82	7.68	clear	
05LCMW05DW	12/2/2004	1145	0.00	309.94	10.9	143	72	7.38	clear	artesian
05LCMW06SW	12/2/2004	1100	5.70	302.57	12	264	134	6.64	clear	
05LCMW07SW	12/2/2004	1240	6.76	302.16	11.4	213	107	7.44	clear	
05LCMW08SW	12/2/2004	1215	6.26	303.52	11.5	217	110	7.44	clear	
05LCMW09SW	12/2/2004	1415	5.01	342.30	10	42	21	6.14	cloudy	
05LCMW10SW	12/2/2004	1345	8.52	342.95	11.3	23	10	5.55	cloudy	
05LCMW11SW	12/3/2004	1310	7.10	338.62	11.5	388	197	6.69	clear	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4th QUARTER 2004
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
05L4MW01AW	12/7/2004	0935	16.48	514.92	10	60	30	7.08	cloudy	pH malfunction
05L4MW01BW	12/7/2004	1010	13.30	516.27	10	17	8	5.83	clear	
05L4MW02AW	12/6/2004	1210	26.18	493.75	11.1	18	9	5.26	cloudy	
05L4MW02BW	12/6/2004	1315	31.42	487.04	12.2	163	83	6.67	clear	
05L4MW03AW	12/6/2004	1015	28.64	486.21	11.1	15	7	5.5	clear	
05L4MW03BW	12/6/2004	1110	26.44	485.03	11.1	30	14	5.69	clear	
05L4MW04AW	12/6/2004	1410	26.98	484.81	11.1	15	7	5.92	clear	slow recharge
05L4MW05AW	12/6/2004	1145	22.94	486.97	10.6	19	9	5.64	cloudy	
05L4MW07BW	12/7/2004	1040	39.40	441.02	9.9	26	13	5.95	clear	
05L4MW17W	12/7/2004	1125	10.20	351.28	11.7	280	142	7.08	clear	slow recharge, pH malfunction
05L4MW18W	12/7/2004	1250	11.20	351.64	11.6	134	64	7.08	cloudy	pH malfunction

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
- = parameter not measured in field
Water level in monitoring well LC-MW05D was at the top of the rim of steel casing when opened on 12/2/2004. .
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 1st QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
06LCMW01SW	3/23/2005	Lacamas Cr.	ND	ND	ND	0.5	0.94	0.24	0.15	0.58	0.18	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 1 mg/L
06LCMW01DW	3/23/2005	Lacamas Cr.	ND	ND	ND	0.02	1.4	0.25	0.045	1.1	0.17	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	chloride, 3 mg/L; sulfate, 4 mg/L
06LCMW02SW	3/23/2005	Lacamas Cr.	ND	0.14	ND	0.2	0.96	0.2	0.051	0.62	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	1	45	chloride, 2 mg/L
06LCMW02DW	3/23/2005	Lacamas Cr.	ND	0.26	ND	0.6	1.5	0.46	0.214	1.3	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.6	2	44	chloride, 2 mg/L
06LCMW03SW	3/23/2005	Lacamas Cr.	ND	ND	ND	ND	1.5	0.13	0.029	0.55	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	44	chloride, 2 mg/L; nitrate, 0.2 mg/L
06LCMW03DW	3/23/2005	Lacamas Cr.	ND	0.21	ND	0.06	1.1	0.31	0.119	0.81	0.24	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	49	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 2 mg/L
06LCMW04SW	3/24/2005	Lacamas Cr.	ND	ND	ND	0.09	2.2	0.97	0.236	1.4	0.25	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	13	39	chloride, 2 mg/L; nitrate, 0.9 mg/L
06LCMW04DW	3/24/2005	Lacamas Cr.	ND	0.76	ND	0.15	2.1	0.58	0.129	1.5	0.23	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	7	52	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 3 mg/L
06LCMW05SW	3/22/2005	Demo Area 3	ND	1	ND	ND	2.3	1.4	0.31	1.6	0.29	ND	ND	7.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW05DW	3/22/2005	Demo Area 3	0.3	0.38	0.14	0.42	2.7	3.2	1.9	2.6	0.34	0.03	0.01	14.8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW06SW	3/22/2005	Demo Area 3	ND	1.1	0.11	0.23	3.4	5.4	1.9	3.3	0.66	ND	0.01	12.8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW07SW	3/22/2005	Demo Area 3	0.75	3.2	ND	1.2	2.9	1.3	0.503	1.8	0.66	0.1	ND	4.1	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW08SW	3/22/2005	Demo Area 3	0.12	0.99	ND	0.29	1.6	0.52	0.116	1.4	0.3	0.03	ND	2.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW09SW	3/22/2005	Demo Area 2	ND	**20.3**	2.1	2.5	**171**	461	**20.4**	93	ND	0.26	0.12	262	0.13	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW10SW	3/22/2005	Demo Area 2	ND	0.3	0.19	0.57	6.1	13.8	3.1	3.4	0.15	0.06	0.02	19	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW11SW	3/22/2005	Demo Area 2	ND	3.3	ND	0.1	1.3	1.7	0.277	2.3	0.47	ND	ND	2.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06L4MW01AW	3/28/2005	Landfill 4	ND	0.79	0.52	0.67	15.1	41.3	4.7	11.1	ND	0.05	0.06	55.6	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
06L4MW01BW	3/28/2005	Landfill 4	ND	ND	ND	0.06	2.9	0.65	0.106	0.99	0.23	ND	ND	1.8	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
06L4MW02AW	3/28/2005	Landfill 4	ND	ND	0.23	0.3	8.4	18.2	0.843	6.4	ND	ND	ND	26.7	ND	ND	nt	nt	nt	nt	2.2	19	ND	ND	nt	100	nt	nt	nt	nt	nt
06L4MW02BW	3/28/2005	Landfill 4	ND	1.2	0.04	0.64	2.2	2.2	0.744	1.4	3.5	ND	ND	4.5	ND	Detect: See VOC Table	nt	nt	nt	nt	2.5	67	ND	ND	nt	ND	nt	nt	nt	nt	nt
06L4MW03AW	3/25/2005	Landfill 4	ND	ND	0.1	0.52	3.5	8.6	0.945	2	0.32	ND	0.02	21.4	ND	ND	nt	nt	nt	nt	ND	8	ND	ND	nt	94	nt	nt	nt	nt	nt
06L4MW03BW	3/25/2005	Landfill 4	ND	0.26	0.14	1.1	7.9	8.5	2.6	4.4	0.3	ND	0.03	27.3	ND	ND	nt	nt	nt	nt	ND	4.8	ND	ND	nt	43	nt	nt	nt	nt	nt
06L4MW04AW	3/25/2005	Landfill 4	ND	ND	0.19	0.45	10.1	33.3	1.4	5.6	0.13	0.03	0.05	32	ND	ND	nt	nt	nt	nt	ND	0.9	ND	ND	nt	14	nt	nt	nt	nt	nt
06L4MW05AW	3/25/2005	Landfill 4	ND	ND	0.04	0.22	3.8	2.6	0.222	1.9	0.12	ND	ND	4.3	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4.2	ND	ND	nt	35	nt	nt	nt	nt	nt
06L4MW07BW	3/24/2005	Landfill 4	0.23	ND	ND	0.04	1.7	0.11	0.006	1.2	0.19	0.03	ND	2.2	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
06L4MW17W	3/24/2005	Landfill 4	ND	0.3	0.02	0.1	1.4	1.9	0.438	2.4	0.49	ND	0.01	3.7	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
06L4MW18W	3/24/2005	Landfill 4	ND	0.08	0.15	0.31	7.1	12.3	3.1	4.7	ND	ND	0.04	27.1	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
06LCMW240W (field duplicate of 06LCMW01DW)	3/23/2005	Lacamas Cr.	ND	ND	ND	0.04	1.3	0.23	0.06	1	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	1.5	<2	45	chloride, 3 mg/L; sulfate, 4 mg/L
06L4MW250W (field duplicate of 06L4MW07BW)	3/24/2005	Landfill 4	ND	ND	ND	0.06	1.8	0.08	0.006	1.2	0.27	ND	ND	1.4	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
06LCM245W (field duplicate of 06LCMW05DW)	3/22/2005	Lacamas Cr.	0.1	0.39	0.1	0.52	2	2.6	1.6	1.8	0.24	ND	0.01	11.8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
06LCMW255W (field rinsate; deionized water)	3/24/2005		0.21	ND	ND	0.26	0.78	0.34	0.058	0.22	ND	ND	ND	2.1	ND	Detect: See VOC Table	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	17	<2	<2	none above detection limits
Trip Blank TB-1	3/23/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	3/28/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.03	varies	varies	0.20 mg/L	0.82 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0-2.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 1st QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
06LCMW01SW	3/23/2005	Lacamas Cr.	ND	ND	ND	0.02	0.89	0.17	0.022	0.69	0.49	ND	0.02	1.2	ND	<1.0
06LCMW01DW	3/23/2005	Lacamas Cr.	ND	0.21	ND	ND	0.88	0.19	ND	0.86	0.19	ND	ND	0.85	ND	<1.0
06LCMW02SW	3/23/2005	Lacamas Cr.	ND	0.05	ND	ND	1.1	0.14	0.012	0.76	0.019	ND	ND	1.3	ND	<1.0
06LCMW02DW	3/23/2005	Lacamas Cr.	ND	ND	ND	0.03	0.99	0.16	0.007	1.3	0.11	ND	ND	1.9	ND	1.6
06LCMW03SW	3/23/2005	Lacamas Cr.	0.13	ND	ND	ND	1.2	0.15	ND	0.94	0.22	0.03	ND	1	ND	<1.0
06LCMW03DW	3/23/2005	Lacamas Cr.	ND	0.13	ND	ND	0.9	0.14	0.005	0.85	0.31	ND	ND	0.9	ND	<1.0
06LCMW04SW	3/24/2005	Lacamas Cr.	ND	ND	ND	ND	0.95	0.15	0.021	0.64	0.21	ND	ND	1.3	ND	<1.0
06LCMW04DW	3/24/2005	Lacamas Cr.	ND	0.72	ND	ND	1.6	0.21	0.003	1.2	0.27	ND	ND	0.87	ND	<1.0
06LCMW05SW	3/22/2005	Demo Area 3	ND	1	ND	ND	1.2	0.38	0.122	1	0.36	ND	0.05	1.9	ND	nt
06LCMW05DW	3/22/2005	Demo Area 3	ND	0.21	ND	0.23	1.1	0.53	0.12	1.4	0.22	ND	ND	2.2	ND	nt
06LCMW06SW	3/22/2005	Demo Area 3	ND	0.45	ND	0.02	0.82	0.71	0.021	1.5	0.71	ND	ND	1.7	ND	nt
06LCMW07SW	3/22/2005	Demo Area 3	0.26	2.7	ND	0.27	1.7	0.53	0.096	1.9	0.63	0.03	ND	1.5	ND	nt
06LCMW08SW	3/22/2005	Demo Area 3	ND	0.88	ND	0.05	1.4	0.46	0.075	1.5	0.28	ND	ND	1.3	ND	nt
06LCMW09SW	3/22/2005	Demo Area 2	ND	ND	ND	ND	1.2	0.72	0.151	0.61	0.29	ND	ND	10.6	ND	nt
06LCMW10SW	3/22/2005	Demo Area 2	ND	ND	ND	0.15	1.1	0.53	0.022	0.74	0.28	ND	ND	2.3	ND	nt
06LCMW11SW	3/22/2005	Demo Area 2	ND	3.1	ND	0.03	0.93	0.22	0.033	2	0.46	ND	ND	2.9	ND	nt
06L4MW01AW	3/28/2005	Landfill 4	ND	ND	0.04	0.13	1.5	0.24	0.031	1.6	0.42	ND	ND	1.6	ND	nt
06L4MW01BW	3/28/2005	Landfill 4	ND	ND	ND	0.02	1.4	0.05	0.015	0.6	0.14	ND	ND	0.92	ND	nt
06L4MW02AW	3/28/2005	Landfill 4	ND	ND	0.06	0.04	1.7	0.3	0.428	1.3	0.51	ND	ND	1.9	ND	nt
06L4MW02BW	3/28/2005	Landfill 4	ND	0.84	ND	0.04	1.9	1.5	0.264	1.5	4.3	ND	0.06	10.5	ND	nt
06L4MW03AW	3/25/2005	Landfill 4	0.61	ND	0.02	0.09	1.3	0.27	0.042	0.75	0.33	ND	ND	2	ND	nt
06L4MW03BW	3/25/2005	Landfill 4	0.19	ND	0.02	0.29	1.5	0.44	0.123	2.3	0.15	ND	ND	3.7	ND	nt
06L4MW04AW	3/25/2005	Landfill 4	0.1	0.04	0.02	0.08	1.9	1.4	0.34	2	0.48	ND	0.06	11.1	ND	nt
06L4MW05AW	3/25/2005	Landfill 4	ND	ND	0.02	0.08	1.3	0.13	0.037	1.7	0.2	ND	ND	2.2	ND	nt
06L4MW07BW	3/24/2005	Landfill 4	ND	ND	ND	0.02	1.6	0.11	0.128	1.6	0.16	ND	ND	1.5	ND	nt
06L4MW17W	3/24/2005	Landfill 4	ND	ND	ND	0.02	1	0.43	0.149	3.3	0.44	ND	ND	1.4	ND	nt
06L4MW18W	3/24/2005	Landfill 4	0.16	ND	ND	0.02	2.4	0.16	0.127	1.7	0.36	ND	ND	3.7	ND	nt
06LCMW240W (field duplicate of 06LCMW01DW)	3/23/2005	Lacamas Cr.	ND	0.13	ND	ND	1.1	0.15	0.005	1.1	0.35	ND	ND	1.1	ND	1.5
06L4MW250W (field duplicate of 06L4MW07BW)	3/24/2005	Landfill 4	0.43	ND	ND	0.03	1.7	0.07	0.002	1.4	0.23	ND	ND	1.3	ND	nt
06LCM245W (field duplicate of 06LCMW05DW)	3/22/2005	Lacamas Cr.	0.13	0.61	0.04	0.32	1.9	0.86	0.4	1.8	0.25	ND	ND	2.7	ND	<1.0
06LCMW255W (field rinsate; deionized water)	3/24/2005		ND	ND	ND	0.02	0.98	0.16	0.025	0.18	ND	ND	ND	1.8	ND	17
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.03	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 1st QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)																SVOC (µg/l)
			1,1-Dichloroethene	Chloromethane	Methylene chloride (see Note)	1,1-Dichloroethane	Bromodichloromethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Benzene	Tetrachloroethene (PCE)	4-Methyl-2-pentanone (MIBK)	Trichlorofluoromethane	2-Butanone	Carbon Disulfide	Bromomethane	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
06L4MW02BW	3/28/2005	Landfill 4	27	ND	ND	37	ND	120	140	ND	0.8 (J)	ND	ND	ND	ND	ND	ND	ND	nt
06L4MW05AW	3/25/2005	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	0.7 (J)	ND	ND	ND	ND	ND	ND	ND	nt
06L4MW17W	3/24/2005	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9 (J)	ND	nt
06LCMW255W (field rinsate; deionized water)	3/24/2005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.3	2.0 (J)
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	ND	ND	5.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	5	n/a	n/a	200	n/a	5	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
06LCMW01SW	3/23/2005	1100	5.22	284.94	10.3	84	42	6.67	clear	
06LCMW01DW	3/23/2005	1030	5.68	284.57	9.6	103	52	7.07	clear	
06LCMW02SW	3/23/2005	1130	5.60	285.59	11.7	82	45	7.08	clear	pH malfunction
06LCMW02DW	3/23/2005	1145	6.19	285.40	11.4	88	44	6.96	clear	
06LCMW03SW	3/23/2005	1345	5.08	285.83	11.9	82	41	6.89	clear	
06LCMW03DW	3/23/2005	1315	5.24	285.74	11.1	96	48	6.91	clear	
06LCMW04SW	3/24/2005	0945	5.09	286.54	11.3	81	41	6.34	slightly cloudy	
06LCMW04DW	3/24/2005	1020	5.78	286.01	11.3	101	51	7.25	clear	
06LCMW05SW	3/22/2005	1150	6.75	303.35	11.4	163	82	7.68	clear	
06LCMW05DW	3/22/2005	1130	0.00	309.94	10.9	143	72	7.38	clear	artesian
06LCMW06SW	3/22/2005	1215	6.56	301.71	12	264	134	6.64	clear	
06LCMW07SW	3/22/2005	1325	6.63	302.29	11.4	213	107	7.44	clear	
06LCMW08SW	3/22/2005	1305	6.94	302.84	11.5	217	110	7.44	clear	
06LCMW09SW	3/22/2005	0930	6.72	340.59	10	42	21	6.14	cloudy	
06LCMW10SW	3/22/2005	1030	9.48	341.99	11.3	23	10	5.55	cloudy	
06LCMW11SW	3/22/2005	1006	7.26	338.46	11.5	388	197	6.69	clear	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
06L4MW01AW	3/28/2005	1020	15.45	515.95	10	60	30	7.08	cloudy	pH malfunction
06L4MW01BW	3/28/2005	1040	10.80	518.77	10	17	8	5.83	clear	
06L4MW02AW	3/28/2005	1115	25.20	494.73	11.1	18	9	5.26	cloudy	
06L4MW02BW	3/28/2005	1140	30.48	487.98	12.2	163	83	6.67	clear	
06L4MW03AW	3/25/2005	1050	30.70	484.15	11.1	15	7	5.5	clear	
06L4MW03BW	3/25/2005	1110	28.18	483.29	11.1	30	14	5.69	clear	
06L4MW04AW	3/25/2005	1250	27.82	483.97	11.1	15	7	5.92	clear	slow recharge
06L4MW05AW	3/25/2005	1140	23.51	486.40	10.6	19	9	5.64	cloudy	
06L4MW07BW	3/24/2005	1325	40.02	440.40	9.9	26	13	5.95	clear	
06L4MW17W	3/24/2005	1235	10.66	350.82	11.7	280	142	7.08	clear	slow recharge, pH malfunction
06L4MW18W	3/24/2005	1210	11.70	351.14	11.6	134	64	7.08	cloudy	pH malfunction

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
- = parameter not measured in field
Water level in monitoring well LC-MW05D was at the top of the rim of steel casing when opened on 12/2/2004. .
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 2nd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
07LCMW01SW	6/24/2005	Lacamas Cr.	ND	0.21	ND	0.23	1.3	0.69	0.04	0.87	ND	ND	0.04	1.3	ND	ND	ND	nt	nt	nt	ND	ND	ND	ND	ND	ND	< 1.0	19	4	42	chloride, 1 mg/L
07LCMW01DW	6/24/2005	Lacamas Cr.	ND	0.35	ND	ND	0.99	0.49	ND	0.86	ND	ND	0.04	2.4	0.089	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1	7	45	chloride, 2 mg/L; sulfate, 2 mg/L
07LCMW02SW	6/24/2005	Lacamas Cr.	ND	0.54	ND	ND	0.8	0.4	ND	0.49	ND	ND	0.03	0.84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	6	44	chloride, 2 mg/L
07LCMW02DW	6/24/2005	Lacamas Cr.	0.09	0.53	ND	0.1	1	0.45	0.02	0.92	ND	ND	0.12	1.5	ND	Detect: See VOC Table	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	1	< 1.0	25	< 2	44	chloride, 2 mg/L
07LCMW03SW	6/28/2005	Lacamas Cr.	ND	0.36	ND	ND	1.2	0.55	0.05	0.86	ND	0.02	0.02	2.9	0.059	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.7	4	41	chloride, 1 mg/L
07LCMW03DW	6/28/2005	Lacamas Cr.	0.22	0.87	ND	ND	1	0.59	0.07	0.68	0.05	0.06	0.26	0.81	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	4	47	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 1 mg/L
07LCMW04SW	6/28/2005	Lacamas Cr.	0.03	0.34	0.05	0.05	4.3	4	0.84	3	ND	0.04	0.05	13.4	0.059	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.7	39	40	chloride, 2 mg/L; nitrate, 0.9 mg/L
07LCMW04DW	6/28/2005	Lacamas Cr.	0.05	1.1	ND	0.06	2.8	1.5	0.35	2.2	0.05	0.04	0.03	3.3	0.087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	31	50	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 3 mg/L
07LCMW05SW	6/23/2005	Demo Area 3	0.15	1.2	ND	0.52	2.2	1	0.18	1.5	0.08	ND	0.04	2.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW05DW	6/23/2005	Demo Area 3	0.14	0.91	ND	0.21	3.1	1.6	0.72	2.3	0.07	0.03	0.05	3.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW06SW	6/23/2005	Demo Area 3	0.23	2.3	ND	ND	1.4	1.7	0.2	2.3	0.06	0.04	0.1	4.9	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW07SW	6/23/2005	Demo Area 3	0.14	3.2	ND	0.2	2.2	1.1	0.26	1.1	0.09	0.05	0.09	3.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW08SW	6/23/2005	Demo Area 3	0.05	1.3	ND	0.2	2.2	0.79	0.5	1.5	0.09	0.04	0.09	3.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW09SW	6/27/2005	Demo Area 2	ND	0.3	ND	0.07	2	3.3	0.25	1.2	ND	ND	0.03	5.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW10SW	6/27/2005	Demo Area 2	0.05	1.9	0.3	0.84	10.5	29.2	6.1	8.6	0.05	ND	0.08	65.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07LCMW11SW	6/27/2005	Demo Area 2	0.04	3.8	ND	0.25	7.2	19.8	2.5	4.1	ND	ND	0.04	8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07L4MW01AW	6/28/2005	Landfill 4	0.27	1.7	0.48	0.32	23.3	61.1	6	19.3	0.09	0.21	0.15	102	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
07L4MW01BW	6/28/2005	Landfill 4	ND	0.05	0.03	0.04	4.2	1.5	0.14	2.1	ND	0.06	0.02	3.3	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	< 1	nt	nt	nt	nt	nt
07L4MW02AW	6/29/2005	Landfill 4	0.06	1	0.27	0.48	24.3	37.4	1.6	21.9	0.24	0.05	0.04	112	0.24	ND	nt	nt	nt	nt	2.3	18	ND	ND	nt	120	nt	nt	nt	nt	nt
07L4MW02BW	6/29/2005	Landfill 4	0.15	0.23	0.03	0.73	6.2	2.6	0.63	4.5	ND	0.02	0.03	3.9	0.2	Detect: See VOC Table	nt	nt	nt	nt	2.6	73	ND	ND	nt	140	nt	nt	nt	nt	nt
07L4MW03AW	6/29/2005	Landfill 4	ND	0.06	0.03	0.3	4	2.3	0.36	2.4	ND	0.03	0.02	5	**5.6**	ND	nt	nt	nt	nt	ND	9	ND	ND	nt	110	nt	nt	nt	nt	nt
07L4MW03BW	6/29/2005	Landfill 4	0.13	0.14	0.04	0.33	6	2	0.66	4.3	0.09	0.04	0.07	6	0.73	ND	nt	nt	nt	nt	ND	5.1	ND	ND	nt	52	nt	nt	nt	nt	nt
07L4MW04AW	6/29/2005	Landfill 4	0.03	0.55	0.14	0.15	10.4	31.7	0.86	7.1	0.05	0.03	0.18	43.7	0.17	ND	nt	nt	nt	nt	ND	0.88	ND	ND	nt	24	nt	nt	nt	nt	nt
07L4MW05AW	6/29/2005	Landfill 4	ND	0.2	0.05	0.14	10.4	5.3	0.37	6.5	ND	0.03	0.04	8.5	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4.1	ND	ND	nt	39	nt	nt	nt	nt	nt
07L4MW07BW	6/28/2005	Landfill 4	ND	0.19	ND	0.09	4.2	0.87	0.05	3.2	0.04	0.06	0.02	1	0.058	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
07L4MW17W	6/29/2005	Landfill 4	0.17	0.52	0.09	0.09	4.8	5.4	1.2	3.7	0.12	0.03	0.06	5.1	0.63	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
07L4MW18W	6/29/2005	Landfill 4	0.05	0.97	0.27	0.16	17.2	29.9	3.7	12.5	0.05	0.06	0.09	31.9	0.33	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
07LCMW260W (field duplicate of 07LCMW02DW)	6/24/2005	Lacamas Cr.	ND	0.49	ND	0.06	0.9	0.48	0.02	0.8	ND	ND	0.05	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	1.1	< 2	44	chloride, 2 mg/L
07LCMW265W (field duplicate of 07LCMW06SW)	6/23/2005	Lacamas Cr.	0.24	2.2	ND	0.09	1.5	1.4	0.17	2.1	0.05	0.06	0.09	3.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
07L4M270W (field duplicate of 07L4MW01AW)	6/28/2005	Lacamas Cr.	0.12	2.2	0.63	0.43	29.9	91	8.4	27.9	0.07	0.15	0.14	97.6	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3	nt	nt	nt	nt	nt
07LCMW275W (field rinsate; deionized water)	6/24/2005		ND	ND	ND	ND	0.35	0.49	ND	0.19	ND	ND	0.02	0.87	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.8	<2	<2	none above detection limits
Trip Blank TB-1	6/24/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	6/28/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.052	varies	varies	0.20 mg/L	0.82 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND DOC - 2nd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
07LCMW01SW	6/24/2005	Lacamas Cr.	0.07	0.28	ND	0.06	0.62	0.56	0.03	0.72	0.06	0.03	0.03	3.1	ND	19
07LCMW01DW	6/24/2005	Lacamas Cr.	0.06	0.4	ND	0.05	0.78	0.6	0.04	0.97	0.07	0.03	0.03	0.99	ND	1.0
07LCMW02SW	6/24/2005	Lacamas Cr.	ND	0.58	ND	ND	0.79	0.54	0.02	0.98	0.03	0.02	0.02	0.56	ND	<1.0
07LCMW02DW	6/24/2005	Lacamas Cr.	ND	0.54	ND	0.05	0.82	0.47	ND	1.5	0.04	ND	0.03	0.66	ND	25
07LCMW03SW	6/28/2005	Lacamas Cr.	ND	0.34	ND	ND	0.48	0.53	0.05	0.69	0.04	ND	0.07	1.0	0.07	1.7
07LCMW03DW	6/28/2005	Lacamas Cr.	0.25	0.91	ND	0.03	1.7	0.57	0.02	1.3	0.04	0.05	0.09	3.5	0.082	<1.0
07LCMW04SW	6/28/2005	Lacamas Cr.	ND	0.09	ND	ND	0.64	0.61	0.06	0.37	0.04	ND	0.16	1.6	0.11	1.7
07LCMW04DW	6/28/2005	Lacamas Cr.	0.03	1.0	ND	ND	0.65	2.0	0.07	0.57	0.05	ND	0.07	5.8	0.066	<1.0
07LCMW05SW	6/23/2005	Demo Area 3	0.25	1.3	ND	0.07	0.97	0.67	0.03	0.61	0.11	0.06	0.06	5.8	ND	nt
07LCMW05DW	6/23/2005	Demo Area 3	0.12	0.71	ND	0.1	0.63	0.52	0.08	1.0	0.06	ND	0.04	1.8	ND	nt
07LCMW06SW	6/23/2005	Demo Area 3	0.14	1.4	ND	ND	0.59	0.63	0.03	1.2	ND	ND	0.11	1.6	ND	nt
07LCMW07SW	6/23/2005	Demo Area 3	0.26	3.2	ND	0.1	1.1	0.59	0.06	0.74	0.11	0.03	0.1	1.4	ND	nt
07LCMW08SW	6/23/2005	Demo Area 3	0.04	1.3	ND	0.34	0.56	0.48	ND	0.43	0.07	ND	0.08	2.9	ND	nt
07LCMW09SW	6/27/2005	Demo Area 2	0.11	0.11	ND	0.09	0.53	0.64	0.05	0.5	ND	ND	0.05	1.5	ND	nt
07LCMW10SW	6/27/2005	Demo Area 2	0.04	0.28	0.02	0.15	0.59	1.1	0.16	1.1	ND	ND	0.03	2.7	ND	nt
07LCMW11SW	6/27/2005	Demo Area 2	ND	3.5	ND	0.05	0.58	0.56	0.04	1.0	0.05	ND	0.03	1.6	ND	nt
07L4MW01AW	6/28/2005	Landfill 4	0.23	0.31	0.08	0.08	13.3	5.5	0.43	17.2	0.08	0.1	0.22	7.0	0.064	nt
07L4MW01BW	6/28/2005	Landfill 4	ND	ND	ND	ND	1.4	0.62	0.07	1.4	ND	ND	0.07	12.7	0.12	nt
07L4MW02AW	6/29/2005	Landfill 4	0.16	0.05	0.06	0.2	3.2	1.9	0.21	5.5	0.28	1.2	0.21	6.1	ND	nt
07L4MW02BW	6/29/2005	Landfill 4	0.15	0.15	0.02	0.26	4.5	0.65	0.23	1.3	ND	0.06	0.29	5.6	ND	nt
07L4MW03AW	6/29/2005	Landfill 4	ND	ND	0.02	0.09	0.93	1.1	0.13	1.4	ND	ND	0.06	1.7	0.09	nt
07L4MW03BW	6/29/2005	Landfill 4	ND	ND	0.02	0.29	1.8	0.75	0.08	2.5	0.08	ND	0.11	4.2	0.083	nt
07L4MW04AW	6/29/2005	Landfill 4	ND	ND	ND	0.04	9.7	1.0	0.06	1.6	0.04	ND	0.06	5.3	ND	nt
07L4MW05AW	6/29/2005	Landfill 4	ND	ND	0.02	0.08	2.2	0.71	0.04	3.1	0.05	ND	0.06	3.5	ND	nt
07L4MW07BW	6/28/2005	Landfill 4	0.09	0.18	ND	0.07	1.8	0.61	0.04	2.2	ND	0.02	0.21	4.4	0.099	nt
07L4MW17W	6/29/2005	Landfill 4	0.13	0.26	ND	ND	1.1	0.83	0.13	2.2	0.16	ND	0.08	0.93	0.069	nt
07L4MW18W	6/29/2005	Landfill 4	ND	0.04	ND	ND	2.0	0.59	0.11	1.7	ND	ND	0.12	2.7	0.08	nt
07LCMW260W (field duplicate of 07LCMW02DW)	6/24/2005	Lacamas Cr.	ND	0.59	ND	0.07	1.0	0.55	ND	1.8	0.03	0.02	0.02	2.0	ND	1.1
07LCMW265W (field duplicate of 07LCMW06SW)	6/23/2005	Landfill 4	ND	1.5	ND	ND	0.56	0.68	0.08	1.3	ND	ND	0.07	2.7	ND	nt
07L4M270W (field duplicate of 07L4MW01AW)	6/28/2005	Lacamas Cr.	0.03	0.03	0.03	0.05	0.97	0.68	0.09	4.7	0.07	0.02	0.15	14.4	0.098	nt
07LCMW275W (field rinsate; deionized water)	6/24/2005		ND	ND	ND	ND	0.3	0.6	0.03	0.04	ND	ND	ND	1.9	ND	1.8
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.052	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 2nd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)																SVOC (µg/l)
			1,1-Dichloroethene	Chloromethane	Methylene chloride (see Note)	1,1-Dichloroethane	Bromodichloromethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Benzene	Tetrachloroethene (PCE)	4-Methyl-2-pentanone (MIBK)	Trichlorofluoromethane	2-Butanone	Carbon Disulfide	Bromomethane	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
07LCMW01DW	6/24/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2 (J)
07LCMW02DW	6/24/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3 (J)	ND	1 (J)
07LCMW03SW	6/28/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3 (J)
07LCMW03DW	6/28/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4 (J)
07L4MW02BW	6/29/2005	Landfill 4	30	ND	ND	48	ND	130	130	0.5 (J)	0.7 (J)	ND	ND	3.6 (J)	ND	ND	7.2	ND	nt
06L4MW05AW	6/29/2005	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	0.7 (J)	ND	ND	ND	ND	ND	ND	ND	nt
07LCMW275W (field rinsate; deionized water)	6/24/2005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2 (J)	0.9 (J)	ND
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	ND	ND	5.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	5	n/a	n/a	200	n/a	5	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

DRAFT **TABLE 7**

FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	**Date**	**Time**	**Depth to Water in Feet***	**Water Elevation in feet amsl ****	**Temp (degrees C)**	**Conductivity (µS/cm)**	**Total Dissolved Solids (ppm)**	**pH**	**Color and Relative Turbidity**	**Notes**
07LCMW01SW	6/24/2005	1015	5.89	284.27	12.0	80	40	6.76	clear	
07LCMW01DW	6/24/2005	1045	5.30	284.95	12.1	89	45	6.58	clear	
07LCMW02SW	6/24/2005	1130	5.69	285.50	12.1	82	41	6.65	clear	
07LCMW02DW	6/24/2005	1150	6.22	285.37	13	87	44	6.58	clear	Ants in purge water. Duplicate sample taken
07LCMW03SW	6/28/2005	1040	4.93	285.98	11.6	78	41	6.43	clear	
07LCMW03DW	6/28/2005	1010	5.12	285.86	11.5	98	49	6.51	clear	MS/MSD sample @ 1020
07LCMW04SW	6/28/2005	1115	4.94	286.69	11.6	86	43	7.08	slightly cloudy	pH meter malfunction
07LCMW04DW	6/28/2005	1130	5.70	286.09	11.5	107	54	7.08	clear	pH meter malfunction
07LCMW05SW	6/23/2005	1220	6.42	303.68	12.8	156	79	7.21	clear	
07LCMW05DW	6/23/2005	1200	0.00	309.94	12.6	140	71	6.95	clear	artesian
07LCMW06SW	6/23/2005	1245	6.45	301.82	12.7	200	104	7.08	clear	Duplicate sample taken
07LCMW07SW	6/23/2005	1345	6.71	302.21	12.7	235	119	7.58	clear	
07LCMW08SW	6/23/2005	1320	6.31	303.47	13.4	186	95	7.39	clear	
07LCMW09SW	6/27/2005	1325	5.28	342.03	11.3	30	15	5.9	cloudy	
07LCMW10SW	6/27/2005	1420	9.21	342.26	11.7	25	13	7.08	cloudy	pH meter malfunction
07LCMW11SW	6/27/2005	1355	7.20	338.52	11.9	371	189	7.08	clear	pH meter malfunction

DRAFT **TABLE 7**

FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
07L4MW01AW	6/28/2005	1300	16.38	515.02	11.5	39	19	7.08	cloudy	pH meter malfunction. Duplicate sample taken.
07L4MW01BW	6/28/2005	1315	12.96	516.61	11.1	18	9	5.29	clear	
07L4MW02AW	6/29/2005	1245	25.46	494.47	12.9	55	28	7.07	cloudy	
07L4MW02BW	6/29/2005	1300	31.18	487.28	12.9	38	19	7.07	clear	
07L4MW03AW	6/29/2005	1120	29.16	485.69	12.0	16	8	7.08	cloudy	pH meter malfunction
07L4MW03BW	6/29/2005	1135	26.64	484.83	12.0	29	14	7.05	clear	
07L4MW04AW	6/29/2005	1320	27.45	484.34	13.3	12	6	7.07	clear	
07L4MW05AW	6/29/2005	1150	23.80	486.11	11.8	22	10	7.07	slightly cloudy	
07L4MW07BW	6/28/2005	1410	39.55	440.87	10.9	28	14	7.08	clear	pH meter malfunction
07L4MW17W	6/29/2005	1000	10.37	351.11	14.0	300	153	7.34	cloudy	purged dry; slow recharge
07L4MW18W	6/29/2005	1040	10.45	352.39	12.0	135	69	6.99	cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
- = parameter not measured in field
Water level in monitoring well LC-MW05D was at the top of the rim of steel casing when opened on 12/2/2004. .
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 3rd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
08LCMW01SW	9/15/2005	Lacamas Cr.	ND	ND	ND	ND	0.36	ND	ND	0.19	ND	ND	ND	2.4	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	46	chloride, 1 mg/L
08LCMW01DW	9/15/2005	Lacamas Cr.	ND	ND	ND	0.23	0.69	ND	0.08	0.58	ND	ND	ND	2	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	48	chloride, 2 mg/L; sulfate, 2 mg/L
08LCMW02SW	9/16/2005	Lacamas Cr.	ND	0.14	ND	0.1	0.16	ND	ND	0.04	ND	ND	ND	1.3	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	2.3	2	48	chloride, 1 mg/L
08LCMW02DW	9/16/2005	Lacamas Cr.	ND	0.18	ND	ND	0.68	ND	ND	0.48	ND	ND	ND	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	48	chloride, 2 mg/L
08LCMW03SW	9/16/2005	Lacamas Cr.	ND	0.05	ND	ND	0.89	ND	0.03	0.56	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	2	44	chloride, 1 mg/L, nitrate 0.2 mg/L
08LCMW03DW	9/16/2005	Lacamas Cr.	0.26	0.87	ND	ND	0.71	ND	ND	0.34	ND	0.14	ND	0.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	6.6	2	48	chloride, 2 mg/L; nitrate, 0.3 mg/L; sulfate, 1 mg/L
08LCMW04SW	9/19/2005	Lacamas Cr.	0.44	0.07	0.03	0.23	2.9	1.4	0.305	2.1	ND	0.09	ND	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	16	39	chloride, 2 mg/L; nitrate, 0.8 mg/L
08LCMW04DW	9/19/2005	Lacamas Cr.	0.64	1	ND	0.13	2.7	0.74	0.149	1.8	ND	0.09	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	10	50	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 2 mg/L
08LCMW05SW	9/14/2005	Demo Area 3	0.26	0.87	ND	0.66	2.4	0.81	0.44	1.8	ND	ND	ND	4.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW05DW	9/14/2005	Demo Area 3	0.06	0.81	0.03	0.07	3.7	1.1	2.4	2.1	0.05	ND	ND	6.2	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW06SW	9/14/2005	Demo Area 3	0.51	2.8	0.018	0.061	16.3	37.3	5.1	10.1	ND	0.029	ND	88.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW07SW	9/14/2005	Demo Area 3	ND	2.9	ND	0.19	2.2	1.3	0.23	1.2	ND	0.08	ND	6	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW08SW	9/14/2005	Demo Area 3	ND	0.96	ND	0.19	1.3	0.37	0.2	0.56	ND	ND	ND	1.6	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW09SW	9/15/2005	Demo Area 2	ND	1.8	0.23	0.04	12.2	26.6	5.5	4.7	ND	ND	ND	37	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW10SW	9/15/2005	Demo Area 2	ND	2.1	0.68	0.56	18.1	39	**22.6**	9	ND	ND	0.09	51.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW11SW	9/15/2005	Demo Area 2	ND	4.6	ND	0.09	1.6	5.2	0.81	1.5	ND	ND	ND	4.7	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08L4MW01AW	9/20/2005	Landfill 4	ND	0.14	0.17	0.19	8.1	9.8	0.773	5.4	ND	0.05	ND	15.7	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
08L4MW01BW	9/20/2005	Landfill 4	ND	ND	0.02	0.17	3.9	0.94	0.102	1.9	ND	ND	ND	1.3	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
08L4MW02AW	9/21/2005	Landfill 4	ND	0.85	0.6	0.52	22.4	54.2	2	19	ND	0.05	ND	74.1	ND	ND	nt	nt	nt	nt	3.2	25	ND	ND	nt	200	nt	nt	nt	nt	nt
08L4MW02BW	9/21/2005	Landfill 4	ND	0.48	0.03	0.44	2.4	2.9	0.506	1.6	1.6	ND	ND	2.9	ND	Detect: See VOC Table	nt	nt	nt	nt	3	82	ND	ND	nt	200	nt	nt	nt	nt	nt
08L4MW03AW	9/21/2005	Landfill 4	0.27	ND	0.05	0.13	5.4	1.3	0.146	3.7	0.15	0.05	ND	0.69	ND	ND	nt	nt	nt	nt	ND	8.9	ND	ND	nt	110	nt	nt	nt	nt	nt
08L4MW03BW	9/21/2005	Landfill 4	ND	0.24	0.1	0.34	10.3	6.4	1.7	5.9	0.3	0.05	ND	41.7	ND	ND	nt	nt	nt	nt	ND	6.1	ND	ND	nt	50	nt	nt	nt	nt	nt
08L4MW04AW	9/21/2005	Landfill 4	ND	0.2	0.11	0.25	7.2	18.9	0.52	3.4	ND	0.03	ND	29.2	ND	ND	nt	nt	nt	nt	ND	0.61	ND	ND	nt	14	nt	nt	nt	nt	nt
08L4MW05AW	9/20/2005	Landfill 4	ND	ND	0.06	0.22	5	3.1	0.217	3.2	ND	ND	ND	3.8	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4	ND	ND	nt	36	nt	nt	nt	nt	nt
08L4MW07BW	9/20/2005	Landfill 4	0.22	0.28	0.05	0.13	8.4	8.8	0.317	5.9	ND	0.06	ND	41.1	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
08L4MW17W	9/20/2005	Landfill 4	ND	0.57	0.03	0.06	2.5	3.5	0.641	2.8	0.2	ND	ND	38.3	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
08L4MW18W	9/20/2005	Landfill 4	ND	2	0.47	0.72	**56.7**	117	10	43.6	ND	0.2	0.09	106	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
08LCMW280W (field duplicate of 08LCMW08SW)	9/14/2005	Demo Area 3	0.03	0.91	ND	0.56	1.3	0.52	0.32	0.82	ND	ND	ND	2.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
08LCMW285W (field duplicate of 08LCMW01DW)	9/15/2005	Lacamas Cr.	ND	0.06	ND	0.2	0.63	ND	0.17	0.55	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	< 2	46	chloride, 2 mg/L; sulfate, 2 mg/L
08L4M290W (field duplicate of 08L4MW03AW)	9/21/2005	Landfill 4	ND	ND	0.03	0.16	7.1	3.2	0.278	4	ND	0.05	ND	2.4	ND	ND	nt	nt	nt	nt	ND	9.6	ND	ND	nt	110	nt	nt	nt	nt	nt
08LCMW295W (field rinsate; deionized water)	9/19/2005	Field Office	ND	0.1	ND	0.07	0.78	0.15	0.019	0.21	0.21	ND	ND	0.96	ND	Detect: See VOC Table	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	6.3	<2	2	none above detection limits
Trip Blank TB-1	9/15/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	9/21/2005		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.052	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J = value estimated
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND DOC - 3rd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
08LCMW01SW	9/15/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	0.59	ND	<1
08LCMW01DW	9/15/2005	Lacamas Cr.	ND	0.08	ND	ND	0.02	ND	ND	0.27	ND	ND	ND	0.4	ND	<1
08LCMW02SW	9/16/2005	Lacamas Cr.	ND	0.13	ND	ND	0.27	0.25	ND	0.27	ND	ND	ND	1.4	ND	2.3
08LCMW02DW	9/16/2005	Lacamas Cr.	ND	0.19	ND	ND	0.06	ND	ND	0.38	ND	ND	ND	0.81	ND	<1
08LCMW03SW	9/16/2005	Lacamas Cr.	ND	0.05	ND	ND	0.04	ND	ND	0.29	ND	ND	ND	0.7	ND	<1
08LCMW03DW	9/16/2005	Lacamas Cr.	0.32	0.56	ND	ND	0.07	0.3	ND	0.35	ND	0.13	ND	ND	ND	6.6
08LCMW04SW	9/19/2005	Lacamas Cr.	ND	0.06	ND	0.04	0.95	0.28	0.015	1.2	ND	0.05	ND	0.27	ND	<1
08LCMW04DW	9/19/2005	Lacamas Cr.	ND	1.1	ND	0.06	1.1	0.5	0.048	1.9	ND	0.09	ND	1.7	ND	<1
08LCMW05SW	9/14/2005	Demo Area 3	ND	1.6	ND	0.16	0.37	ND	ND	0.74	ND	ND	ND	0.77	ND	nt
08LCMW05DW	9/14/2005	Demo Area 3	ND	0.42	ND	ND	0.39	ND	ND	1.2	ND	ND	ND	0.79	ND	nt
08LCMW06SW	9/14/2005	Demo Area 3	0.18	0.4	ND	ND	0.03	ND	0.13	1.3	ND	0.04	ND	4.6	ND	nt
08LCMW07SW	9/14/2005	Demo Area 3	ND	2.6	ND	0.05	0.54	ND	ND	0.54	ND	ND	ND	1.1	ND	nt
08LCMW08SW	9/14/2005	Demo Area 3	ND	0.94	ND	0.06	0.14	ND	ND	0.21	0.07	ND	ND	0.67	ND	nt
08LCMW09SW	9/15/2005	Demo Area 2	ND	ND	ND	ND	ND	ND	0.44	0.1	ND	ND	ND	ND	ND	nt
08LCMW10SW	9/15/2005	Demo Area 2	ND	ND	ND	ND	ND	ND	0.03	0.49	ND	ND	ND	5.2	ND	nt
08LCMW11SW	9/15/2005	Demo Area 2	ND	ND	ND	ND	ND	ND	0.04	0.58	ND	ND	ND	2.1	ND	nt
08L4MW01AW	9/20/2005	Landfill 4	ND	ND	0.05	0.09	1.5	0.16	0.166	2	0.26	ND	ND	1.9	ND	nt
08L4MW01BW	9/20/2005	Landfill 4	ND	ND	ND	0.1	1.4	1.1	0.103	1.2	0.26	ND	ND	21.9	ND	nt
08L4MW02AW	9/21/2005	Landfill 4	ND	ND	0.05	0.07	1.3	0.19	0.012	2.6	0.31	ND	ND	0.77	ND	nt
08L4MW02BW	9/21/2005	Landfill 4	ND	0.33	0.03	0.16	1.1	0.08	0.028	1	1.1	ND	ND	1.3	ND	nt
08L4MW03AW	9/21/2005	Landfill 4	0.24	ND	ND	0.07	2.1	0.16	0.008	3.6	0.2	0.03	ND	0.51	ND	nt
08L4MW03BW	9/21/2005	Landfill 4	ND	ND	0.02	0.19	2.3	2	0.346	2.7	ND	ND	ND	35.7	ND	nt
08L4MW04AW	9/21/2005	Landfill 4	ND	ND	0.02	0.23	1.7	0.21	0.23	1.9	0.21	ND	ND	1.4	ND	nt
08L4MW05AW	9/20/2005	Landfill 4	ND	ND	ND	0.13	1.4	0.1	0.029	1.8	ND	ND	ND	1.4	ND	nt
08L4MW07BW	9/20/2005	Landfill 4	ND	0.17	ND	0.07	1.3	0.17	0.136	2.3	ND	0.04	ND	0.37	ND	nt
08L4MW17W	9/20/2005	Landfill 4	ND	0.68	ND	0.04	0.92	0.69	0.048	2	0.42	ND	ND	0.37	ND	nt
08L4MW18W	9/20/2005	Landfill 4	ND	ND	ND	0.06	2	1.2	0.118	2.7	0.12	ND	ND	1.1	ND	nt
08LCMW280W (field duplicate of 08LCMW08SW)	9/14/2005	Demo Area 3	ND	0.94	ND	0.21	0.1	ND	0.13	0.38	0.06	ND	ND	5.0	ND	nt
08LCMW285W (field duplicate of 08LCMW01DW)	9/15/2005	Lacamas Cr.	ND	0.05	ND	ND	ND	ND	0.07	0.17	ND	ND	ND	2.1	ND	<1
08L4M290W (field duplicate of 08L4MW03AW)	9/21/2005	Landfill 4	ND	ND	0.03	0.08	2.6	0.18	0.03	5.1	ND	ND	ND	1.9	ND	nt
08LCMW295W (field rinsate; deionized water)	9/19/2005	Field Office	ND	ND	ND	0.06	0.98	0.1	0.21	0.88	ND	ND	ND	1.1	ND	6.3
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.04	0.02	0.01	0.02	0.052	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 3rd QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)																SVOC (µg/l)
			1,1-Dichloroethene	Chloromethane	Methylene chloride (see Note)	1,1-Dichloroethane	Bromodichloromethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Benzene	Tetrachloroethene (PCE)	4-Methyl-2-pentanone (MIBK)	Trichlorofluoromethane	2-Butanone	Carbon Disulfide	Bromomethane	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
08LCMW01SW	9/15/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 (J, B)
08LCMW01DW	9/15/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 (J, B)
08LCMW02SW	9/16/2005	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 (J, B)
08L4MW02BW	9/21/2005	Landfill 4	23	ND	ND	40	ND	100	160	0.4 (J)	0.8 (J)	ND	100	ND	ND	ND	ND	ND	nt
08L4MW05AW	9/20/2005	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	0.7 (J)	ND	ND	ND	ND	ND	ND	ND	nt
08LCMW295W (field rinsate; deionized water)	9/19/2005	Field Office	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	2 (J, B)
Lab detection limit			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	ND	ND	5.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	5	n/a	n/a	200	n/a	5	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

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FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
08LCMW01SW	9/15/2005	1000	6.69	283.47	12.8	97	48	6.66	clear	
08LCMW01DW	9/15/2005	1030	6.91	283.34	12.5	99	49	6.64	clear	collected duplicate
08LCMW02SW	9/16/2005	1140	7.78	283.41	12.1	79	40	6.58	clear	
08LCMW02DW	9/16/2005	1110	8.28	283.31	12.3	86	43	6.51	clear	MS/MSD collected
08LCMW03SW	9/16/2005	1010	7.26	283.65	12.2	82	40	6.35	clear	
08LCMW03DW	9/16/2005	1040	7.38	283.60	11.5	93	41	6.53	clear	
08LCMW04SW	9/19/2005	1300	7.30	284.33	12.7	83	42	5.93	clear	
08LCMW04DW	9/19/2005	1320	7.76	284.03	12.1	99	50	6.67	clear	
08LCMW05SW	9/14/2005	1010	9.14	300.96	12.4	183	92	7.54	clear	
08LCMW05DW	9/14/2005	1030	0.30	309.64	12.3	149	76	7.08	clear	
08LCMW06SW	9/14/2005	1105	12.00	296.27	12.6	259	128	7.0	clear	purged dry; slow recharge
08LCMW07SW	9/14/2005	1140	8.81	300.11	12	241	118	7.51	clear	
08LCMW08SW	9/14/2005	1200	8.90	300.88	12.9	186	94	7.31	clear	
08LCMW09SW	9/15/2005	1140	6.23	341.08	13.7	31	15	5.81	clear	
08LCMW10SW	9/15/2005	1210	10.96	340.51	12	32	16	5.48	cloudy	
08LCMW11SW	9/15/2005	1230	8.19	337.53	12.5	379	193	6.48	cloudy	
08L4MW01AW	9/20/2005	1100	16.90	514.50	11.6	40	21	5.17	cloudy	

DRAFT TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
08L4MW01BW	9/20/2005	1130	14.04	515.53	11.1	17	9	5.31	clear	
08L4MW02AW	9/21/2005	1130	28.63	491.30	13.1	29	14	4.95	slightly cloudy	
08L4MW02BW	9/21/2005	1100	33.24	485.22	12.7	38	19	5.53	clear	
08L4MW03AW	9/21/2005	1220	30.96	483.89	12.6	16	8	5.05	clear	
08L4MW03BW	9/21/2005	1200	27.97	483.50	12.2	27	13	5.36	slightly cloudy	
08L4MW04AW	9/21/2005	1030	28.59	483.20	11.6	7	4	5.08	clear	
08L4MW05AW	9/20/2005	1030	25.13	484.78	11	19	9	5.4	clear	
08L4MW07BW	9/20/2005	1200	40.72	439.70	11.2	28	14	5.49	slightly cloudy	
08L4MW17W	9/20/2005	1300	11.25	350.23	15.0	250	127	7.04	clear	
08L4MW18W	9/20/2005	1320	12.10	350.74	13.4	116	59	6.3	cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
- = parameter not measured in field
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 4th QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
09LCMW01SW	1/26/2006	Lacamas Cr.	ND	0.23	ND	0.16	0.98	0.39	0.09	0.92	ND	ND	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	2	44	chloride, 1 mg/L
09LCMW01DW	1/26/2006	Lacamas Cr.	0.17	0.38	ND	1.7	2.2	0.77	0.681	1.9	ND	ND	0.01	3.3	ND	ND	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	45	chloride, 2 mg/L; sulfate, 2 mg/L
09LCMW02SW	1/27/2006	Lacamas Cr.	0.19	0.62	ND	0.11	0.9	0.25	0.062	0.68	ND	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	44	chloride, 2 mg/L
09LCMW02DW	1/27/2006	Lacamas Cr.	0.1	0.48	ND	0.18	1.2	0.33	0.151	1.5	ND	ND	ND	2.7	ND	ND	ND	**0.14**	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	< 2	44	chloride, 2 mg/L; sulfate, 1 mg/L
09LCMW03SW	1/26/2006	Lacamas Cr.	ND	0.34	ND	0.04	0.75	0.41	0.387	0.66	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	3	41	chloride, 2 mg/L, nitrate 0.2 mg/L
09LCMW03DW	1/26/2006	Lacamas Cr.	ND	0.68	ND	0.02	1.1	0.26	0.046	0.87	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	2	45	chloride, 2 mg/L; nitrate, 0.3 mg/L
09LCMW04SW	1/26/2006	Lacamas Cr.	ND	0.12	0.03	0.03	1.3	0.58	0.198	0.95	ND	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	13	38	chloride, 2 mg/L; nitrate, 0.8 mg/L
09LCMW04DW	1/26/2006	Lacamas Cr.	0.14	1.1	ND	0.08	2.6	0.67	0.159	1.7	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	10	50	chloride, 2 mg/L; nitrate, 0.2 mg/L; sulfate, 2 mg/L
09LCMW05SW	1/24/2006	Demo Area 3	0.52	1.2	ND	1.5	6	2.2	0.958	3.9	0.11	0.03	ND	8	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW05DW	1/24/2006	Demo Area 3	0.34	0.99	0.08	0.21	5.7	3.6	1.5	4	0.16	0.07	0.02	13.4	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW06SW	1/24/2006	Demo Area 3	0.33	0.64	0.05	0.14	2.3	5.6	0.77	1.7	ND	0.03	0.01	30.1	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW07SW	1/24/2006	Demo Area 3	0.3	3.3	ND	0.24	3.7	1.4	0.446	2.5	0.13	0.04	0.02	6.3	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW08SW	1/24/2006	Demo Area 3	0.33	1.2	ND	0.76	4.6	1.1	0.506	3.2	0.12	0.03	0.01	5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW09SW	1/23/2006	Demo Area 2	0.28	0.94	0.27	0.19	5.6	14.4	3.3	3	ND	0.04	0.02	25.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW10SW	1/23/2006	Demo Area 2	0.39	0.45	0.16	0.83	4.6	11.6	1.9	3.5	ND	0.4	0.2	44	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW11SW	1/23/2006	Demo Area 2	0.24	5	ND	0.48	1.7	6	0.656	2.2	ND	0.03	ND	11.9	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09L4MW01AW	1/30/2006	Landfill 4	0.19	0.39	0.22	0.51	10	22.9	2	5.9	0.18	0.14	0.08	27.8	ND	ND	nt	nt	nt	nt	ND	0.68	ND	ND	nt	17	nt	nt	nt	nt	nt	nt
09L4MW01BW	1/30/2006	Landfill 4	ND	0.08	0.09	0.1	4.8	3	0.382	2.5	0.15	0.06	0.01	4.1	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
09L4MW02AW	1/30/2006	Landfill 4	ND	0.23	0.27	0.46	12.7	11.1	0.461	7.8	0.34	0.04	ND	14.6	ND	ND	nt	nt	nt	nt	3.3	20	ND	ND	nt	95	nt	nt	nt	nt	nt
09L4MW02BW	1/30/2006	Landfill 4	0.12	0.25	0.09	0.58	2	2.6	0.367	1.6	0.61	ND	ND	7	ND	Detect: See VOC Table	nt	nt	nt	nt	3.5	98	ND	ND	nt	400	nt	nt	nt	nt	nt
09L4MW03AW	1/30/2006	Landfill 4	ND	0.05	0.09	0.07	6.2	1.3	0.163	3.6	ND	0.03	ND	3.2	ND	ND	nt	nt	nt	nt	ND	11	ND	ND	nt	110	nt	nt	nt	nt	nt
09L4MW03BW	1/30/2006	Landfill 4	ND	0.16	0.09	0.13	14.6	4.5	0.925	8.4	0.17	0.04	ND	14.7	ND	ND	nt	nt	nt	nt	ND	4.2	ND	ND	nt	53	nt	nt	nt	nt	nt
09L4MW04AW	1/30/2006	Landfill 4	0.1	0.31	0.18	0.4	10.2	24.6	0.968	5	0.13	0.04	0.02	27.2	ND	ND	nt	nt	nt	nt	ND	1.1	ND	ND	nt	17	nt	nt	nt	nt	nt
09L4MW05AW	1/30/2006	Landfill 4	ND	ND	0.05	2.6	5.6	1.2	0.041	3.5	0.16	ND	ND	4.2	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	3.4	ND	ND	nt	35	nt	nt	nt	nt	nt
09L4MW07BW	1/27/2006	Landfill 4	ND	0.18	0.07	0.06	3.5	1.1	0.073	2.7	0.12	0.03	ND	3.9	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt
09L4MW17W	1/27/2006	Landfill 4	0.34	0.37	0.1	0.7	1.7	1.5	0.654	2.8	0.29	0.03	ND	4.1	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
09L4MW18W	1/27/2006	Landfill 4	0.09	0.17	0.17	0.19	8.1	10.2	1	6.8	0.13	0.03	ND	9.9	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
09LCMW300W (field duplicate of 09LCMW05DW)	1/24/2006	Demo Area 3	0.03	1.1	0.13	0.26	6.7	6.5	2	4	0.15	0.06	0.04	21.5	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
09LCMW305W (field duplicate of 09LCMW02DW)	1/27/2006	Lacamas Cr.	0.14	0.5	ND	0.1	1.3	0.44	0.381	1.4	ND	ND	ND	3.2	ND	ND	ND	0.073	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	5	44	chloride, 2 mg/L
09L4M310W (field duplicate of 09L4MW05AW)	1/30/2006	Landfill 4	ND	ND	0.08	0.27	5.1	1.1	0.026	3.2	0.13	ND	ND	4.2	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	3.5	ND	ND	nt	36	nt	nt	nt	nt	nt
09LCMW315W (field rinsate; deionized water)	1/30/2006	Field Office	ND	0.03	0.06	0.06	0.91	0.62	0.057	0.36	0.1	ND	ND	5.1	ND	Detect: See VOC Table	Detect: See SVOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	2	none above detection limits
Trip Blank TB-1	1/26/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	1/27/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.01	0.02	0.01	0.02	varies	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J = value estimated
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 4th QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
09LCMW01SW	1/26/2006	Lacamas Cr.	7.5	0.35	ND	0.1	0.68	0.47	0.18	0.76	3.3	0.03	0.12	2.6	ND	<1
09LCMW01DW	1/26/2006	Lacamas Cr.	0.1	0.37	ND	0.17	1.2	0.44	0.133	1.4	ND	0.07	0.01	2.6	ND	<1
09LCMW02SW	1/27/2006	Lacamas Cr.	ND	0.59	ND	0.05	0.61	0.34	0.064	0.73	ND	2	0.01	2.2	ND	<1
09LCMW02DW	1/27/2006	Lacamas Cr.	ND	0.48	ND	0.08	0.62	0.3	0.073	1.2	ND	0.03	ND	2.4	ND	<1
09LCMW03SW	1/26/2006	Lacamas Cr.	0.23	0.32	ND	0.05	0.39	0.49	0.098	0.8	ND	ND	ND	2.1	ND	<1
09LCMW03DW	1/26/2006	Lacamas Cr.	0.13	0.64	ND	0.08	0.56	0.62	0.098	0.88	ND	ND	ND	2.1	ND	<1
09LCMW04SW	1/26/2006	Lacamas Cr.	0.49	0.1	ND	0.06	0.6	0.3	0.079	0.69	ND	0.03	ND	2.6	ND	<1
09LCMW04DW	1/26/2006	Lacamas Cr.	6.2	1.4	ND	0.1	1.2	0.91	0.483	1.4	3.4	0.13	0.14	2.8	ND	<1
09LCMW05SW	1/24/2006	Demo Area 3	ND	1.1	ND	0.46	1.3	0.78	0.131	1.8	0.16	0.03	0.01	5.3	ND	nt
09LCMW05DW	1/24/2006	Demo Area 3	0.25	0.72	ND	0.15	1.3	0.38	0.07	3.8	0.17	0.1	0.04	3.5	ND	nt
09LCMW06SW	1/24/2006	Demo Area 3	0.18	0.37	ND	0.07	1.8	0.75	0.042	1.1	ND	0.14	0.05	2.9	ND	nt
09LCMW07SW	1/24/2006	Demo Area 3	0.17	3.2	ND	0.14	1.4	0.79	0.09	2.4	0.13	3.8	0.01	3.1	ND	nt
09LCMW08SW	1/24/2006	Demo Area 3	0.19	1.2	ND	0.33	2.1	0.64	0.133	2.9	0.15	0.09	0.03	3.8	ND	nt
09LCMW09SW	1/23/2006	Demo Area 2	0.75	0.62	ND	0.05	0.68	0.51	0.207	0.58	ND	ND	ND	3.7	ND	nt
09LCMW10SW	1/23/2006	Demo Area 2	ND	0.03	0.02	0.18	1.5	0.88	0.447	0.87	ND	0.61	ND	2.6	ND	nt
09LCMW11SW	1/23/2006	Demo Area 2	ND	3.7	ND	0.1	0.53	0.52	0.111	1.50	0.32	0.1	0.02	5.1	ND	nt
09L4MW01AW	1/30/2006	Landfill 4	0.04	ND	0.03	0.13	0.86	0.16	ND	1.3	0.19	0.05	ND	4.9	ND	nt
09L4MW01BW	1/30/2006	Landfill 4	ND	ND	0.04	0.02	1	0.08	ND	0.87	ND	0.03	ND	2.3	ND	nt
09L4MW02AW	1/30/2006	Landfill 4	ND	ND	0.09	0.24	2.3	0.23	0.007	3.2	0.41	ND	ND	4.6	ND	nt
09L4MW02BW	1/30/2006	Landfill 4	ND	0.16	0.05	0.52	1.1	0.25	ND	1.6	0.44	ND	ND	4.4	ND	nt
09L4MW03AW	1/30/2006	Landfill 4	ND	ND	0.07	0.04	1.7	0.25	0.024	2.8	0.14	ND	ND	3.8	ND	nt
09L4MW03BW	1/30/2006	Landfill 4	ND	ND	0.02	0.11	1.3	0.13	0.009	2.2	0.14	ND	ND	4.5	ND	nt
09L4MW04AW	1/30/2006	Landfill 4	ND	ND	0.09	0.13	1.6	0.26	0.017	1.5	0.13	ND	ND	6	ND	nt
09L4MW05AW	1/30/2006	Landfill 4	0.03	ND	0.04	0.21	2.5	0.26	0.019	2.7	ND	ND	ND	4.2	ND	nt
09L4MW07BW	1/27/2006	Landfill 4	ND	0.17	0.12	0.02	1.5	0.23	0.002	2.7	0.12	ND	ND	3	ND	nt
09L4MW17W	1/27/2006	Landfill 4	0.1	0.33	0.07	0.03	0.62	0.44	0.009	2.5	0.31	ND	ND	3	ND	nt
09L4MW18W	1/27/2006	Landfill 4	ND	0.08	0.07	0.05	2.4	0.24	ND	2.1	0.15	0.03	ND	6	ND	nt
09LCMW300W (field duplicate of 09LCMW05DW)	1/24/2006	Demo Area 3	0.33	0.72	ND	0.15	2.0	0.48	0.098	3.6	0.18	0.04	0.06	4.0	ND	nt
09LCMW305W (field duplicate of 09LCMW02DW)	1/27/2006	Lacamas Cr.	0.25	0.56	ND	0.1	1.1	0.53	0.206	1.9	ND	0.07	0.01	2.7	ND	<1
09L4M310W (field duplicate of 09L4MW05AW)	1/30/2006	Landfill 4	ND	ND	0.08	0.16	2.7	0.17	ND	4.8	ND	0.03	ND	3.3	ND	nt
09LCMW315W (field rinsate; deionized water)	1/30/2006	Field Office	ND	ND	0.08	ND	0.34	0.17	ND	0.05	ND	ND	ND	2.3	ND	<1
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.01	0.02	0.01	0.02	0.052	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 4th QUARTER 2005
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)							SVOC (µg/l)
			1,1-Dichloroethene	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Tetrachloroethene (PCE)	Acetone (see Note)	Chloroform	bis(2-Ethylhexyl)phthalate
08LCMW01DW	1/26/2006	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	1 (J)
09L4MW02BW	1/30/2006	Landfill 4	28	41	110	140	0.8 (J)	ND	ND	nt
09L4MW05AW	1/30/2006	Landfill 4	ND	ND	ND	ND	1.0 (J)	ND	ND	nt
09L4MW07BW	1/27/2006	Landfill 4	ND	ND	ND	ND	ND	2.6 (J)	ND	nt
09L4M310W (field duplicate of 09L4MW05AW)	1/30/2006	Landfill 4	ND	ND	ND	ND	0.9 (J)	ND	ND	nt
09LCMW315W (field rinsate; deionized water)	1/30/2006	Field Office	ND	ND	ND	ND	ND	3.1 (J)	1.1	5
Lab detection limit			1.0	1.0	1.0	1.0	1.0	5.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	200	n/a	5	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Methylene chloride and acetone are common laboratory solvents and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4th QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
09LCMW01SW	1/26/2006	1300	4.29	285.87	10.8	80	40	6.58	clear	
09LCMW01DW	1/26/2006	1320	4.66	285.59	11.2	86	43	6.88	clear	
09LCMW02SW	1/27/2006	1050	4.60	286.59	10.9	85	42	6.78	clear	
09LCMW02DW	1/27/2006	1130	5.14	286.45	11.5	88	44	6.67	clear	collected duplicate
09LCMW03SW	1/26/2006	1200	4.06	286.85	10.9	79	41	6.41	clear	
09LCMW03DW	1/26/2006	1220	4.23	286.75	10.9	89	44	6.55	clear	
09LCMW04SW	1/26/2006	1120	4.15	287.48	10.2	79	40	6.0	clear	
09LCMW04DW	1/26/2006	1050	4.60	287.19	10.5	100	51	6.95	clear	
09LCMW05SW	1/24/2006	1130	6.05	304.05	11.5	148	75	7.23	clear	
09LCMW05DW	1/24/2006	1050	0.00	309.94	11.0	138	69	7.14	clear	collected duplicate
09LCMW06SW	1/24/2006	1230	5.62	302.65	10.3	86	43	6.42	slightly cloudy	
09LCMW07SW	1/24/2006	1300	6.53	302.39	11.4	247	125	7.52	clear	
09LCMW08SW	1/24/2006	1320	6.12	303.66	11.8	177	90	7.19	clear	
09LCMW09SW	1/23/2006	1325	4.91	342.40	9.7	36	18	5.4	clear	
09LCMW10SW	1/23/2006	1350	8.34	343.13	10.5	21	10	4.94	cloudy	
09LCMW11SW	1/23/2006	1420	6.41	339.31	11.3	367	187	6.4	cloudy	
09L4MW01AW	1/30/2006	1400	11.18	520.22	10.7	23	11	6.98	slightly cloudy	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4th QUARTER 2005
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
09L4MW01BW	1/30/2006	1420	7.39	522.18	10.4	19	9	7.0	clear	
09L4MW02AW	1/30/2006	1230	22.55	497.38	11.3	54	27	4.86	slightly cloudy	
09L4MW02BW	1/30/2006	1250	28.71	489.75	11.1	52	20	5.76	clear	MS/MSD collected
09L4MW03AW	1/30/2006	1140	26.21	488.64	11.2	15	7	5.05	clear	
09L4MW03BW	1/30/2006	1120	23.50	487.97	10.7	23	11	5.21	clear	
09L4MW04AW	1/30/2006	1330	24.72	487.07	10.5	13	6	5.02	clear	
09L4MW05AW	1/30/2006	1050	19.22	490.69	10.4	19	9	5.24	clear	collected duplicate
09L4MW07BW	1/27/2006	1340	38.36	442.06	10.2	26	13	5.79	clear	
09L4MW17W	1/27/2006	1250	9.20	352.28	10.5	210	104	7.26	clear	
09L4MW18W	1/27/2006	1310	10.56	352.28	11.0	128	65	6.28	slightly cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 1st QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
10LCMW01SW	3/23/2006	Lacamas Cr.	0.34	0.23	ND	0.28	0.73	0.29	0.14	0.71	0.09	0.02	ND	1.62	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	5	42	chloride, 1.5 mg/L
10LCMW01DW	3/23/2006	Lacamas Cr.	0.19	0.40	ND	0.49	1.55	0.38	0.25	1.93	ND	ND	ND	2.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	5	44	chloride, 1.8 mg/L; sulfate, 1.4 mg/L
10LCMW02SW	3/23/2006	Lacamas Cr.	0.42	0.67	ND	0.10	1.02	0.27	0.04	0.85	ND	0.05	ND	1.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	2	44	chloride, 2 mg/L
10LCMW02DW	3/23/2006	Lacamas Cr.	0.22	0.56	ND	0.21	1.73	0.44	0.16	2.50	ND	0.04	ND	1.77	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	5	44	chloride, 2.2 mg/L; nitrate, 0.2 mg/L; sulfate, 1 mg/L
10LCMW03SW	3/22/2006	Lacamas Cr.	ND	0.26	ND	0.02	0.77	0.20	0.03	0.66	ND	ND	ND	0.85	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	<2	45	chloride, 2.3 mg/L, nitrate 0.31 mg/L; sulfate, 2.7 mg/L
10LCMW03DW	3/22/2006	Lacamas Cr.	ND	0.56	ND	0.01	1.31	0.20	0.05	1.05	0.07	0.10	ND	1.36	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	<2	45	chloride, 1.8 mg/L, nitrate 0.38 mg/L; sulfate, 1.1 mg/L
10LCMW04SW	3/22/2006	Lacamas Cr.	0.74	0.09	ND	0.05	1.77	0.49	0.11	1.13	ND	0.59	ND	1.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	5	36	chloride, 2.3 mg/L; nitrate, 0.83 mg/L
10LCMW04DW	3/22/2006	Lacamas Cr.	0.24	1.17	ND	0.04	2.08	0.36	0.05	1.64	ND	0.07	ND	1.80	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	3	50	chloride, 2.4 mg/L; nitrate, 0.3 mg/L; sulfate, 2.6 mg/L
10LCMW05SW	3/21/2006	Demo Area 3	0.42	1.13	ND	0.54	13.30	1.55	0.47	8.48	0.52	0.23	ND	5.30	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW05DW	3/21/2006	Demo Area 3	ND	0.95	0.04	0.08	2.50	2.08	0.76	1.79	0.27	0.15	0.02	3.54	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW06SW	3/21/2006	Demo Area 3	ND	0.58	ND	0.12	2.72	3.15	0.31	2.24	ND	0.03	ND	5.54	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW07SW	3/21/2006	Demo Area 3	0.36	3.01	ND	0.35	5.43	4.24	1.66	3.42	0.11	0.12	0.01	21.20	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW08SW	3/21/2006	Demo Area 3	0.25	1.09	ND	0.90	6.19	1.57	0.68	4.10	0.16	0.20	ND	5.74	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW09SW	3/22/2006	Demo Area 2	ND	0.39	0.10	0.19	3.06	5.64	1.79	2.25	ND	0.03	0.01	15.10	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW10SW	3/22/2006	Demo Area 2	ND	0.74	0.15	0.39	6.93	14.90	3.07	4.83	0.10	0.05	0.04	24.70	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10LCMW11SW	3/22/2006	Demo Area 2	ND	4.35	ND	0.10	2.03	4.59	0.48	2.48	0.16	0.03	ND	2.91	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt
10L4MW01AW	3/27/2006	Landfill 4	ND	0.24	0.15	0.29	6.47	11.70	1.02	4.17	0.07	0.05	0.02	20.10	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	4.7	nt	nt	nt	nt	nt
10L4MW01BW	3/27/2006	Landfill 4	ND	ND	0.04	0.43	3.63	2.25	0.26	1.86	ND	0.03	ND	4.18	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
10L4MW02AW	3/27/2006	Landfill 4	0.09	0.15	0.12	0.45	5.27	6.07	0.28	3.54	0.41	0.05	ND	10.10	ND	ND	nt	nt	nt	nt	2.6	17	ND	ND	nt	120	nt	nt	nt	nt	nt
10L4MW02BW	3/27/2006	Landfill 4	0.14	0.27	0.06	0.58	3.23	5.46	0.65	2.14	0.72	0.06	ND	6.43	ND	Detect: See VOC Table	nt	nt	nt	nt	3.1	88	ND	ND	nt	280	nt	nt	nt	nt	nt
10L4MW03AW	3/24/2006	Landfill 4	ND	0.04	0.31	0.50	2.94	2.18	0.34	1.69	0.11	0.04	ND	3.77	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	8.4	ND	ND	nt	99	nt	nt	nt	nt	nt
10L4MW03BW	3/24/2006	Landfill 4	0.81	0.08	0.04	0.41	5.71	3.24	0.84	3.05	ND	0.08	0.01	8.76	ND	ND	nt	nt	nt	nt	ND	4.7	ND	ND	nt	46	nt	nt	nt	nt	nt
10L4MW04AW	3/27/2006	Landfill 4	ND	0.37	0.14	0.23	14.30	26.00	0.73	7.74	0.14	0.11	0.05	34.10	ND	ND	nt	nt	nt	nt	ND	1.5	ND	ND	nt	20	nt	nt	nt	nt	nt
10L4MW05AW	3/27/2006	Landfill 4	ND	0.04	0.03	0.36	2.16	1.79	0.16	1.56	ND	0.03	ND	5.30	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	4.1	ND	ND	nt	30	nt	nt	nt	nt	nt
10L4MW07BW	3/24/2006	Landfill 4	0.07	0.17	0.02	0.09	2.75	1.28	0.10	2.14	0.08	0.06	ND	3.17	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	2.6	nt	nt	nt	nt	nt
10L4MW17W	3/24/2006	Landfill 4	ND	0.34	0.07	0.07	2.33	3.61	0.98	2.94	0.15	0.04	0.02	3.74	ND	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
10L4MW18W	3/24/2006	Landfill 4	ND	0.78	0.21	0.55	22.80	45.90	4.93	15.70	ND	0.13	0.07	40.90	ND	Detect: See VOC Table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt
10LCMW320W (field duplicate of 10LCMW04DW)	3/22/2006	Lacamas Cr.	ND	0.11	ND	0.02	1.96	0.37	0.05	1.28	0.28	0.06	ND	1.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1	3	50	chloride, 1.6 mg/L; nitrate, 0.3 mg/L
10LCMW325W (field duplicate of 10LCMW01SW)	3/23/2006	Lacamas Cr.	1.13	0.24	ND	0.09	0.79	0.28	0.07	0.71	ND	0.06	ND	1.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1	4	43	chloride, 1.6 mg/L
10L4M330W (field duplicate of 10L4MW03BW)	3/24/2006	Landfill 4	ND	0.12	0.03	0.44	6.01	3.61	0.88	4.00	ND	0.07	0.01	17.40	ND	ND	nt	nt	nt	nt	ND	3.8	ND	ND	nt	45	nt	nt	nt	nt	nt
10LCMW335W (field rinsate; deionized water)	3/27/2006	Field Office	0.07	ND	ND	0.12	0.41	0.31	0.02	0.51	ND	ND	ND	1.50	ND	Detect: See VOC Table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	< 1	<2	<2	none above detection limits
Trip Blank TB-1	3/22/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	3/24/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.01	0.02	0.01	0.02	0.013	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800																

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J = value estimated
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 1st QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Nickel	Selenium	Silver	Thallium	Zinc	Mercury	
10LCMW01SW	3/23/2006	Lacamas Cr.	0.16	0.22	ND	0.03	0.27	0.18	0.03	0.56	ND	ND	ND	3.15	ND	<1
10LCMW01DW	3/23/2006	Lacamas Cr.	0.10	0.39	ND	0.17	0.93	0.19	0.02	1.21	ND	ND	ND	2.87	ND	<1
10LCMW02SW	3/23/2006	Lacamas Cr.	ND	0.57	ND	0.03	0.52	0.17	0.04	0.89	ND	ND	ND	2.26	ND	<1
10LCMW02DW	3/23/2006	Lacamas Cr.	ND	0.51	ND	0.03	0.39	0.14	0.02	1.06	ND	0.04	ND	1.96	ND	<1
10LCMW03SW	3/22/2006	Lacamas Cr.	ND	0.25	ND	0.01	0.56	0.20	0.06	0.83	0.09	ND	ND	3.43	ND	<1
10LCMW03DW	3/22/2006	Lacamas Cr.	ND	0.62	ND	0.02	0.62	0.17	0.03	1.07	0.08	ND	ND	2.11	ND	<1
10LCMW04SW	3/22/2006	Lacamas Cr.	ND	0.09	ND	0.02	0.94	0.14	0.02	1.88	0.11	ND	ND	1.64	ND	<1
10LCMW04DW	3/22/2006	Lacamas Cr.	ND	1.08	ND	0.02	1.00	0.23	0.02	1.20	ND	ND	ND	1.19	ND	<1
10LCMW05SW	3/21/2006	Demo Area 3	ND	0.99	ND	0.23	1.27	0.27	0.04	1.48	ND	ND	ND	2.15	ND	nt
10LCMW05DW	3/21/2006	Demo Area 3	ND	0.78	ND	0.04	0.73	0.31	0.04	1.49	0.18	0.04	0.01	2.39	ND	nt
10LCMW06SW	3/21/2006	Demo Area 3	0.89	0.43	ND	0.04	1.30	0.50	0.03	1.39	0.08	ND	ND	2.71	ND	nt
10LCMW07SW	3/21/2006	Demo Area 3	0.22	2.92	ND	0.11	1.40	0.45	0.06	1.89	0.19	ND	ND	1.82	ND	nt
10LCMW08SW	3/21/2006	Demo Area 3	ND	1.09	ND	0.26	1.52	0.38	0.59	1.80	0.10	ND	ND	3.04	ND	nt
10LCMW09SW	3/22/2006	Demo Area 2	ND	0.07	ND	0.05	0.55	0.45	0.04	0.68	ND	ND	ND	2.22	ND	nt
10LCMW10SW	3/22/2006	Demo Area 2	ND	ND	ND	0.10	0.61	0.41	0.02	0.71	ND	ND	ND	2.54	ND	nt
10LCMW11SW	3/22/2006	Demo Area 2	0.62	3.69	ND	0.02	0.62	0.22	0.05	1.86	0.27	ND	ND	2.17	ND	nt
10L4MW01AW	3/27/2006	Landfill 4	0.07	ND	0.04	0.07	0.71	0.32	0.04	1.32	ND	ND	ND	3.99	ND	nt
10L4MW01BW	3/27/2006	Landfill 4	ND	ND	0.01	0.03	0.86	0.11	0.04	0.91	ND	ND	ND	2.20	ND	nt
10L4MW02AW	3/27/2006	Landfill 4	ND	0.04	0.06	0.17	1.16	0.23	0.03	1.74	0.39	ND	ND	5.64	ND	nt
10L4MW02BW	3/27/2006	Landfill 4	0.36	0.21	0.04	0.25	1.80	0.21	0.04	2.05	0.50	ND	ND	6.04	ND	nt
10L4MW03AW	3/24/2006	Landfill 4	ND	ND	0.01	0.10	1.06	0.16	0.02	1.05	ND	ND	ND	4.73	ND	nt
10L4MW03BW	3/24/2006	Landfill 4	ND	ND	ND	0.21	1.13	0.26	0.04	2.34	0.10	ND	ND	5.04	ND	nt
10L4MW04AW	3/27/2006	Landfill 4	0.13	ND	0.03	0.05	1.38	0.15	0.02	3.10	ND	ND	ND	2.83	ND	nt
10L4MW05AW	3/27/2006	Landfill 4	ND	ND	0.02	0.24	0.79	0.23	0.06	1.19	ND	ND	ND	4.94	ND	nt
10L4MW07BW	3/24/2006	Landfill 4	ND	0.12	ND	0.07	1.31	0.15	0.08	1.92	ND	ND	ND	2.80	ND	nt
10L4MW17W	3/24/2006	Landfill 4	ND	0.24	ND	0.02	0.70	0.56	0.05	2.38	0.12	ND	ND	1.95	ND	nt
10L4MW18W	3/24/2006	Landfill 4	ND	0.07	ND	0.04	2.01	0.11	0.02	2.68	0.12	ND	ND	1.64	ND	nt
10LCMW320W (field duplicate of 10LCMW04DW)	3/22/2006	Lacamas Cr.	ND	1.26	ND	ND	0.95	0.17	0.01	1.28	ND	ND	ND	1.28	ND	<1
10LCMW325W (field duplicate of 10LCMW01SW)	3/23/2006	Lacamas Cr.	0.36	0.27	ND	0.02	0.36	0.30	0.01	0.71	0.13	ND	ND	1.60	ND	<1
10L4M330W (field duplicate of 10L4MW03BW)	3/24/2006	Landfill 4	ND	ND	0.02	0.21	1.04	0.23	0.03	2.24	0.12	ND	ND	5.15	ND	nt
10LCMW335W (field rinsate; deionized water)	3/27/2006	Field Office	ND	ND	ND	ND	0.91	0.09	0.04	0.20	ND	ND	ND	1.22	ND	<1
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.04	0.01	0.02	0.01	0.02	0.013	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	n/a	n/a	n/a	n/a	n/a	2	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		320	80	80	1.1	4,800	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 1st QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)								SVOC (µg/l)
			1,1-Dichloroethene	1,1-Dichloroethane	1,1,1-Trichloroethane	Dichlorodifluoromethane	Tetrachloroethene (PCE)	Acetone (see Note)	Trichlorofluoromethane	Chloroform	bis(2-Ethylhexyl)phthalate
10LCMW01SW	3/23/2006	Lacamas Cr.	ND	ND	ND	ND	ND	1.4 (J)	ND	ND	ND
10LCMW02DW	3/23/2006	Lacamas Cr.	ND	ND	ND	ND	ND	3.2 (J)	ND	ND	ND
10LCMW03SW	3/22/2006	Lacamas Cr.	ND	ND	ND	ND	ND	2.3 (J)	ND	ND	ND
10LCMW03DW	3/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	1.2 (J)	ND	ND	ND
10LCMW04DW	3/22/2006	Lacamas Cr.	ND	ND	ND	ND	ND	1.0 (J)	ND	ND	ND
10L4MW02BW	3/27/2006	Landfill 4	29	45	110	180	0.7 (J)	ND	0.7 (J)	ND	nt
10L4MW03AW	3/24/2006	Landfill 4	ND	ND	ND	ND	ND	1.5 (J)	ND	ND	ND
10L4MW05AW	3/27/2006	Landfill 4	ND	ND	ND	ND	0.8 (J)	ND	ND	ND	nt
10L4MW07BW	3/24/2006	Landfill 4	ND	ND	ND	ND	ND	0.7 (J)	ND	ND	nt
10L4MW18W	3/24/2006	Landfill 4	ND	ND	ND	ND	ND	2.6 (J)	ND	ND	nt
10LCMW335W (field rinsate; deionized water)	3/27/2006	Field Office	ND	ND	ND	ND	ND	17.0 (J)	ND	6.2	ND
Lab detection limit			1.0	1.0	1.0	1.0	1.0	5.0	1.0	1.0	2.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	200	n/a	5	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Acetone is a common laboratory solvents and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
10LCMW01SW	3/23/2006	1300	4.70	285.46	11.1	78	39	6.32	clear	collected duplicate
10LCMW01DW	3/23/2006	1330	5.12	285.13	11.7	83	42	6.53	clear	
10LCMW02SW	3/23/2006	1120	5.00	286.19	11.4	84	43	6.59	clear	
10LCMW02DW	3/23/2006	1155	5.56	286.03	12.0	86	44	6.22	clear	
10LCMW03SW	3/22/2006	1145	4.38	286.53	11.5	86	44	6.61	clear	
10LCMW03DW	3/22/2006	1210	4.58	286.40	10.8	80	40	6.21	clear	
10LCMW04SW	3/22/2006	1015	4.31	287.32	9.8	75	38	6.1	clear	
10LCMW04DW	3/22/2006	1050	5.00	286.79	10.8	100	51	6.8	clear	collected duplicate
10LCMW05SW	3/21/2006	1325	6.23	303.88	10.8	143	73	7.3	clear	
10LCMW05DW	3/21/2006	1320	0.00	310.94	10.6	139	70	7.12	clear	
10LCMW06SW	3/21/2006	1200	5.96	302.31	9.7	165	84	6.48	clear	
10LCMW07SW	3/21/2006	1225	6.55	302.37	10.4	225	114	7.29	clear	
10LCMW08SW	3/21/2006	1250	6.00	304.78	10.7	164	84	7.13	clear	
10LCMW09SW	3/22/2006	1430	5.22	342.09	9.4	28	14	5.45	slightly cloudy	
10LCMW10SW	3/22/2006	1405	8.74	342.73	10.3	19	9	5.04	silty	
10LCMW11SW	3/22/2006	1325	6.75	338.97	10.9	351	178	6.41	cloudy	
10L4MW01AW	3/27/2006	1300	16.12	515.28	11.5	20	10	5.19	slightly cloudy	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
10L4MW01BW	3/27/2006	1320	12.12	517.45	11.2	14	8	5.1	clear	
10L4MW02AW	3/27/2006	1120	25.18	494.75	12.3	52	25	4.72	slightly cloudy	
10L4MW02BW	3/27/2006	1145	31.30	487.16	12.0	82	42	5.59	clear	
10L4MW03AW	3/24/2006	1140	28.52	486.33	11.9	16	8	4.95	clear	
10L4MW03BW	3/24/2006	1100	26.02	485.45	11.7	29	14	5.39	slightly cloudy	collected duplicate
10L4MW04AW	3/27/2006	1220	27.22	484.57	11.5	12	6	5.28	clear	
10L4MW05AW	3/27/2006	1045	23.35	487.56	10.7	18	8	5.38	clear	
10L4MW07BW	3/24/2006	1230	38.90	441.52	10.5	25	12	5.53	clear	
10L4MW17W	3/24/2006	1330	9.86	351.62	10.3	238	121	7.04	clear	
10L4MW18W	3/24/2006	1300	11.06	351.78	10.9	144	74	5.81	slightly cloudy	

Notes: * = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 2nd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)													VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
11LCMW01SW	6/26/2006	Lacamas Cr.	ND	0.32	0.02	0.06	1.11	1.11	0.066(E)	ND	1.05(E)	0.29	0.04	ND	7.24(E)	nt	nt	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	42	ND	chloride 1.5 mg/L
11LCMW01DW	6/26/2006	Lacamas Cr.	ND	0.57	ND	0.15	1.57	1.57	0.17(E)	ND	1.67(E)	0.45	0.07	ND	3.8(E)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	47	ND	sulfate as SO_4 1.5 mg/L; chloride 1.6 mg/L
11LCMW02SW	6/26/2006	Lacamas Cr.	0.55	0.66	ND	0.11	0.71	0.71	0.047(E)	ND	0.85(E)	0.35	0.04	ND	1.63(E)	nt	nt	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	42	ND	chloride 1.4 mg/L
11LCMW02DW	6/26/2006	Lacamas Cr.	ND	0.58	ND	0.07	1.37	1.37	0.072(E)	ND	1.91(E)	0.29	0.07	ND	5.57(E)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	44	ND	nitrate as N 0.22 mg/L; sulfate as SO_4 1.1 mg/L; chloride 1.9 mg/L
11LCMW03SW	6/27/2006	Lacamas Cr.	ND	0.24	ND	0.02	0.49	0.49	0.02	ND	0.58	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	41	ND	nitrate as N 0.22 mg/L; chloride 1.3 mg/L
11LCMW03DW	6/27/2006	Lacamas Cr.	0.39	0.63	ND	0.04	0.65	0.65	0.03	ND	0.72	ND	ND	ND	0.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	46	ND	nitrate as N 0.31 mg/L; sulfate as SO_4 1.1 mg/L; chloride 1.7 mg/L
11LCMW04SW	6/26/2006	Lacamas Cr.	0.09	0.36	0.09	0.22	3.65	3.65	0.89(E)	ND	3.4(E)	0.27	0.06	0.03	7.35(E)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	57	39	ND	nitrate as N 0.9 mg/L; chloride 2.4 mg/L
11LCMW04DW	6/26/2006	Lacamas Cr.	ND	1.28	0.07	0.47	4.31	4.31	1.06(E)	ND	4.39(E)	0.21	0.11	0.02	7.65(E)	ND	nt	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37	50	ND	nitrate as N 0.25 mg/L; sulfate as SO_4 2.4 mg/L; chloride 2.2 mg/L
11LCMW05SW	6/21/2006	Demo Area 3	0.34	0.86	ND	1.41	4.06	4.06	0.79	ND	3.49	ND	0.08	ND	8.38(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW05DW	6/21/2006	Demo Area 3	0.21	0.83	0.09	0.37	3.66	3.66	2.09	ND	3.87	ND	0.05	0.01	5.17(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW06SW	6/21/2006	Demo Area 3	ND	2.46	ND	0.09	1.07	1.07	0.40	ND	2.39	ND	ND	ND	4.3(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW07SW	6/21/2006	Demo Area 3	0.14	3.01	ND	0.22	2.44	2.44	0.32	ND	2.4	ND	0.03	ND	7.66(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW08SW	6/21/2006	Demo Area 3	0.09	0.94	ND	0.48	2.94	2.94	0.83	0.04	2.8	ND	0.03	ND	7.46(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW09SW	6/21/2006	Demo Area 2	ND	0.30	0.04	0.40	3.48	3.48	2.38	ND	2.58	ND	0.03	ND	10.4(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW10SW	6/21/2006	Demo Area 2	ND	0.63	0.22	0.62	6.05	6.05	3.51	ND	5.75	ND	0.04	0.02	17.8(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11LCMW11SW	6/21/2006	Demo Area 2	ND	**5.89**	0.06	0.37	4.56	4.56	1.78	ND	3.92	ND	0.05	ND	9.62(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11L4MW01AW	6/23/2006	Landfill 4	ND	0.51	0.09	0.31	6.78	6.78	1.11(E)	ND	6.37(E)	0.74	0.11	0.02	23.1(E)	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2.2	nt	nt	nt	nt	nt	nt
11L4MW01BW	6/23/2006	Landfill 4	ND	0.32	0.02	0.07	5.28	5.28	0.32(E)	ND	3.38(E)	0.59	0.10	0.01	3.27(E)	ND	ND	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
11L4MW02AW	6/22/2006	Landfill 4	0.11	ND	0.07	0.65	8.9	8.9	0.30	ND	6.33	0.23	0.03	ND	7.72(E_	ND	nt	nt	nt	nt	nt	3.1	21	ND	ND	nt	180	nt	nt	nt	nt	nt	nt
11L4MW02BW	6/22/2006	Landfill 4	ND	0.04	0.06	0.37	3.65	3.65	1.06	ND	3.25	0.26	ND	ND	5.53(E)	Detect: see VOC table	nt	nt	nt	nt	nt	3.7	92(E)	ND	ND	nt	400	nt	nt	nt	nt	nt	nt
11L4MW03AW	6/22/2006	Landfill 4	ND	ND	0.04	0.12	6.23	6.23	2.68	ND	4.11	ND	0.09	ND	7.95(E)	ND	nt	nt	nt	nt	nt	ND	10	ND	ND	nt	97	nt	nt	nt	nt	nt	nt
11L4MW03BW	6/22/2006	Landfill 4	ND	ND	0.07	0.36	10.8	10.8	0.81	ND	6.99	ND	0.07	ND	6.18(E)	ND	nt	nt	nt	nt	nt	ND	2.9	ND	ND	nt	51	nt	nt	nt	nt	nt	nt
11L4MW04AW	6/22/2006	Landfill 4	ND	ND	0.06	0.21	7.37	7.37	0.26	ND	21.9	ND	0.06	0.01	8.81(E)	ND	nt	nt	nt	nt	nt	ND	1.5	ND	ND	nt	20	nt	nt	nt	nt	nt	nt
11L4MW05AW	6/22/2006	Landfill 4	0.08	0.50	0.22	0.48	8.48	8.48	2.46	ND	7.76	ND	0.11	0.02	32.8(E)	Detect: see VOC table	nt	nt	nt	nt	nt	ND	3.4	ND	ND	nt	29	nt	nt	nt	nt	nt	nt
11L4MW07BW	6/23/2006	Landfill 4	0.15	0.77	0.03	0.64	6.29	6.29	0.36(E)	ND	5.43(E)	0.92	0.20	0.02	7.35(E)	ND	nt	nt	nt	nt	nt	ND	0.64	ND	ND	nt	2.3	nt	nt	nt	nt	nt	nt
11L4MW17W	6/23/2006	Landfill 4	0.48	0.77	0.02	0.03	2.34	2.34	0.52(E)	ND	3.38(E)	ND	ND	0.01	2.97(E)	Detect: see VOC table	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
11L4MW18W	6/23/2006	Landfill 4	0.80	1.88	0.38	1.23	24	24	8.78(E)	ND	40.8(E)	ND	0.44	0.13	74.8(E)	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
11LCMW340W (field duplicate of 11LCMW07SW)	6/21/2006	Demo Area 3	0.16	3.22	ND	0.60	3.84	3.84	0.79	0.05	3.06	ND	0.04	ND	5.74E	ND	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt
11L4MW345W (field duplicate of 11L4MW02BW)	6/22/2006	Landfill 4	ND	0.06	0.06	0.41	4.39	4.39	2.3	0.06	3.46	0.24	0.06	0.01	9.3(E)	Detect: see VOC table	nt	nt	nt	nt	nt	3.7	90(E)	ND	ND	nt	390	nt	nt	nt	nt	nt	nt
11LCM355W (field duplicate of 11LCMW03SW)	6/27/2006	Lacamas Cr.	ND	0.25	ND	ND	1.26	1.26	0.01	ND	0.57	ND	ND	ND	ND	nt	nt	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	42	ND	nitrate as N 0.22 mg/L; chloride 1.5 mg/L
11LCMW360W (field rinsate; deionized water)	6/27/2006	Field Office	0.45	ND	ND	ND	0.47	0.47	0.02	ND	0.10	ND	ND	ND	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	none above detection limits
Trip Blank TB-1	6/22/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L		see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 2nd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
11LCMW01SW	6/26/2006	Lacamas Cr.	ND	0.21	ND	0.15	0.23	0.14(E)	0.005(E)	ND	0.69(E)	0.13	ND	ND	3.13(E)	ND
11LCMW01DW	6/26/2006	Lacamas Cr.	ND	0.42	ND	0.34	0.18	0.19(E)	0.01(E)	ND	0.95(E)	0.14	ND	ND	5.64(E)	ND
11LCMW02SW	6/26/2006	Lacamas Cr.	ND	0.45	ND	0.16	0.17	0.15(E)	0.014(E)	ND	0.68(E)	ND	ND	ND	3.94(E)	ND
11LCMW02DW	6/26/2006	Lacamas Cr.	ND	0.42	ND	0.40	0.60	0.19(E)	0.021(E)	ND	1.27(E)	ND	ND	ND	4.08(E)	ND
11LCMW03SW	6/27/2006	Lacamas Cr.	ND	0.23	ND	0.02	0.20	ND	0.02	ND	0.75	ND	ND	ND	0.03	ND
11LCMW03DW	6/27/2006	Lacamas Cr.	0.29	0.63	ND	ND	0.25	ND	0.03	ND	0.69	ND	ND	ND	0.41	ND
11LCMW04SW	6/26/2006	Lacamas Cr.	ND	0.08	ND	0.08	0.34	0.19(E)	0.03(E)	ND	0.62(E)	ND	ND	ND	4.00(E)	ND
11LCMW04DW	6/26/2006	Lacamas Cr.	ND	0.94	ND	0.16	0.36	0.18(E)	ND	ND	1.61(E)	ND	ND	ND	2.87(E)	ND
11LCMW05SW	6/21/2006	Demo Area 3	ND	0.72	ND	0.26	0.68	0.44	0.07	ND	1.17	0.27	ND	ND	4.12(E)	nt
11LCMW05DW	6/21/2006	Demo Area 3	0.09	0.61	ND	0.10	0.93	0.29	0.05	ND	2.78	0.17	ND	ND	5.02(E)	nt
11LCMW06SW	6/21/2006	Demo Area 3	0.12	2.28	ND	0.37	0.45	0.75	0.08	ND	2.08	ND	ND	ND	4.74(E)	nt
11LCMW07SW	6/21/2006	Demo Area 3	ND	2.8	ND	0.30	1.54	0.36	0.01	ND	2.51	0.16	ND	ND	2.54(E)	nt
11LCMW08SW	6/21/2006	Demo Area 3	ND	0.89	ND	0.61	1.20	0.49	0.03	ND	1.46	0.26	ND	ND	5.53(E)	nt
11LCMW09SW	6/21/2006	Demo Area 2	ND	ND	ND	0.25	0.88	0.67	0.07	ND	1.4	ND	ND	ND	3.71(E)	nt
11LCMW10SW	6/21/2006	Demo Area 2	0.31	ND	0.02	0.42	0.52	1.22	0.06	ND	1.15	ND	ND	ND	5.68(E)	nt
11LCMW11SW	6/21/2006	Demo Area 2	0.16	3.86	ND	0.04	0.37	0.37	0.04	ND	1.57	0.17	ND	ND	3.34(E)	nt
11L4MW01AW	6/23/2006	Landfill 4	ND	ND	0.04	0.39	0.95	0.22(E)	0.017(E)	ND	2.13(E)	0.14	ND	ND	5.58(E)	nt
11L4MW01BW	6/23/2006	Landfill 4	ND	ND	0.03	0.35	0.95	0.15(E)	0.014(E)	ND	1.63(E)	ND	ND	ND	3.29(E)	nt
11L4MW02AW	6/22/2006	Landfill 4	ND	ND	0.06	0.39	2.58	0.34	0.06	ND	3.29	0.23	ND	ND	4.66(E)	nt
11L4MW02BW	6/22/2006	Landfill 4	ND	ND	0.05	0.22	2.91	0.90	0.02	ND	3.66	0.28	ND	ND	4.85(E)	nt
11L4MW03AW	6/22/2006	Landfill 4	ND	ND	0.02	0.35	0.82	0.36	0.02	ND	1.99	ND	ND	ND	6.31(E)	nt
11L4MW03BW	6/22/2006	Landfill 4	ND	ND	ND	0.10	1.87	0.28	0.06	ND	4.11	0.21	ND	ND	5.58(E)	nt
11L4MW04AW	6/22/2006	Landfill 4	ND	ND	ND	0.12	1.48	0.22	0.02	ND	1.82	0.15	ND	ND	3.53(E)	nt
11L4MW05AW	6/22/2006	Landfill 4	ND	ND	0.03	0.12	1.07	0.40	1.47	ND	2.2	ND	ND	0.01	6.40(E)	nt
11L4MW07BW	6/23/2006	Landfill 4	0.20	0.18	ND	0.06	0.98	0.31(E)	0.041(E)	ND	2.61(E)	0.15	ND	ND	4.58(E)	nt
11L4MW17W	6/23/2006	Landfill 4	ND	0.81	ND	0.03	0.69	0.53(E)	0.02(E)	ND	1.83(E)	0.25	ND	ND	5.33(E)	nt
11L4MW18W	6/23/2006	Landfill 4	0.74	0.10	ND	0.33	1.30	0.22(E)	0.014(E)	ND	1.56(E)	0.23	ND	ND	3.95(E)	nt
11LCMW340W (field duplicate of 11LCMW07SW)	6/21/2006	Demo Area 3	ND	2.84	ND	0.40	1.22	0.51	0.029	ND	1.88	0.17	ND	ND	4.01(E)	nt
11L4MW345W (field duplicate of 11L4MW02BW)	6/22/2006	Landfill 4	ND	0.07	0.03	0.32	4.43	0.39	0.014	ND	5.11	0.49	ND	ND	4.1(E)	nt
11LCM355W (field duplicate of 11LCMW03SW)	6/27/2006	Lacamas Cr.	ND	0.27	ND	ND	0.15	ND	0.021	ND	0.64	ND	ND	ND	ND	ND
11LCMW360W (field rinsate; deionized water)	6/27/2006	Field Office	0.37	ND	ND	ND	0.31	ND	0.016	ND	0.10	ND	ND	ND	ND	ND
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 2nd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)							SVOC (µg/l)
			Acetone	Benzene	Trichlorofluoromethane	Tetrachloroethene (PCE)	1,1,2,2 Tetrachloroethane	Trichloroethene (TCE)	Chloroform	
11L4MW02BW	6/22/2006	Landfill 4	1.8(J)	0.3(J)	0.7(J)	0.8(J)	ND	ND	ND	nt
11L4MW05AW	6/22/2006	Landfill 4	ND	ND	ND	0.6(J)	ND	ND	ND	nt
11L4MW17W	6/23/2006	Landfill 4	1.5(J)	ND	ND	ND	ND	ND	ND	nt
11L4MW345W (field duplicate of 11L4MW02BW)	6/22/2006	Landfill 4	1.9(J)	0.3(J)	0.7(J)	0.8(J)	0.2(J)	0.2(J)	ND	nt
11LCMW360W (field rinsate; deionized water)	6/27/2006	Field Office	2.9(J)	ND	ND	ND	ND	ND	0.8(J)	ND
Lab detection limit			5.0	1.0	1.0	1.0	1.0	5.0	1.0	2.0
Method A Cleanup Levels (µg/L)			n/a	n/a	200	n/a	5	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Acetone is a common laboratory solvent and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
11LCMW01SW	6/26/06	1230	5.85	284.31	11.1	78	39	6.32	clear	
11LCMW01DW	6/26/06	1300	6.13	284.12	11.7	83	42	6.53	clear	
11LCMW02SW	6/26/06	1120	6.68	284.51	11.4	84	43	6.59	clear	
11LCMW02DW	6/26/06	1140	7.24	284.35	12.0	86	44	6.22	clear	collected duplicate
11LCMW03SW	6/27/06	1150	6.30	284.61	11.5	86	44	6.61	clear	
11LCMW03DW	6/27/06	1230	6.44	284.54	10.8	80	40	6.21	clear	MS/MSD
11LCMW04SW	6/26/06	1050	6.14	285.49	9.8	75	38	6.1	clear	
11LCMW04DW	6/26/06	1030	8.94	282.85	10.8	100	51	6.8	clear	
11LCMW05SW	6/21/2006	1310	7.15	302.96	10.8	143	73	7.3	clear	
11LCMW05DW	6/21/2006	1250	0.00	310.94	10.6	139	70	7.12	clear	
11LCMW06SW	6/21/2006	1120	7.82	300.45	9.7	165	84	6.48	clear	
11LCMW07SW	6/21/2006	1200	7.16	301.76	10.4	225	114	7.29	clear	collected duplicate
11LCMW08SW	6/21/2006	1225	6.97	303.81	10.7	164	84	7.13	clear	
11LCMW09SW	6/21/2006	1450	5.84	341.47	9.4	28	14	5.45	slightly cloudy	
11LCMW10SW	6/21/2006	1425	9.61	341.86	10.3	19	9	5.04	silty	
11LCMW11SW	6/21/2006	1405	7.37	338.35	10.9	351	178	6.41	cloudy	
11L4MW01AW	6/23/2006	1310	16.64	514.76	11.5	20	10	5.19	slightly cloudy	
11L4MW01BW	6/23/2006	1330	13.34	516.23	11.2	14	8	5.1	clear	

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
11L4MW02AW	6/23/2006	1200	27.22	492.71	12.3	52	25	4.72	slightly cloudy	
11L4MW02BW	6/23/2006	1220	32.77	485.69	12.0	82	42	5.59	clear	collected duplicate
11L4MW03AW	6/23/2006	1405	29.65	485.20	11.9	16	8	4.95	clear	
11L4MW03BW	6/23/2006	1430	27.10	484.37	11.7	29	14	5.39	slightly cloudy	
11L4MW04AW	6/22/2006	1120	27.88	483.91	11.5	12	6	5.28	clear	
11L4MW05AW	6/22/2006	1330	24.22	486.69	10.7	18	8	5.38	clear	
11L4MW07BW	6/23/2006	1230	39.76	440.66	10.5	25	12	5.53	clear	
11L4MW17W	6/23/2006	1135	10.56	350.92	10.3	238	121	7.04	clear	
11L4MW18W	6/23/2006	1200	11.64	351.20	10.9	144	74	5.81	slightly cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
LC-MW05S	AHA-374	Demo Area 3	40.40	22-37	310.10	LC-MW05S
LC-MW10D	AHA-360	Demo Area 3	65.20	53-63	309.94	LC-MW05D
LC-MW11S	AHA-372	Demo Area 3	17.54	12-15	308.27	LC-MW06S
LC-MW12S	AHA-371	Demo Area 3	40.44	22-37	308.92	LC-MW07S
LC-MW13S	AHA-373	Demo Area 3	40.10	22-37	309.78	LC-MW08S
LC-MW14	AHA-369	Demo Area 2	19.64	7-17	347.31	LC-MW09S
LC-MW15	AHA-370	Demo Area 2	26.16	9-24	351.47	LC-MW10S
LC-MW16	AHA-368	Demo Area 2	19.50	7-17	345.72	LC-MW11S
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 3rd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)													VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
12LCMW01SW	9/28/2006	Lacamas Cr.	ND	0.20(J)	ND	0.05(J)	1.03	0.13(J)	ND	0.057(J)	1.61	0.28(J)	ND	ND	2.07(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	ND	43	ND	chloride 1.7 mg/L
12LCMW01DW	9/28/2006	Lacamas Cr.	ND	0.38(J)	ND	0.10(J)	0.70(J)	0.15(J)	ND	0.117(J)	1.35	0.40(J)	ND	ND	1.59(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	4.5	ND	44	ND	sulfate as SO_4 1.6 mg/L; chloride 1.8 mg/L
12LCMW02SW	9/28/2006	Lacamas Cr.	0.38(J)	0.44(J)	ND	0.05(J)	0.42(J)	0.05(J)	ND	0.033(J)	0.83(J)	0.22(J)	ND	ND	2.31(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	ND	43	ND	chloride 1.8 mg/L
12LCMW02DW	9/28/2006	Lacamas Cr.	ND	0.49(J)	0.02(J)	0.39(J)	0.98(J)	0.83(J)	0.61(J)	0.049(J)	3.96	0.42(J)	ND	ND	5.72(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	30	44	ND	nitrate as N 0.22 mg/L; chloride 1.9 mg/L
12LCMW03SW	9/28/2006	Lacamas Cr.	ND	0.41(J)	ND	0.06(J)	0.33(J)	0.07(J)	ND	0.035(J)	0.74(J)	0.46(J)	ND	ND	1.55(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	2.1	ND	42	ND	nitrate as N 0.27 mg/L; chloride 1.6 mg/L
12LCMW03DW	9/28/2006	Lacamas Cr.	ND	0.72(J)	ND	0.04(J)	0.39(J)	0.10(J)	ND	0.035(J)	0.93(J)	0.52(J)	ND	ND	1.82(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	ND	46	ND	nitrate as N 0.31 mg/L; chloride 1.8 mg/L
12LCMW04SW	9/29/2006	Lacamas Cr.	ND	.022 (J)	ND	0.68 (J)	1.10 (J)	0.35(J)	0.31(J)	0.067(J)	1.07	0.11(J)	ND	0.009(J)	3.68(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	1.2	7	38	ND	nitrate as N 0.79 mg/L; chloride 2.4 mg/L
12LCMW04DW	9/29/2006	Lacamas Cr.	ND	1.23	ND	0.17(J)	3.19(J)	2.11	0.70(J)	0.24	2.77	ND	ND	0.01(J)	7.87(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	10	50	ND	nitrate as N 0.24 mg/L; sulfate as SO_4 2.0 mg/L; chloride 2.1 mg/L
12L4MW01AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2.2	nt	nt	nt	nt	nt	nt
12L4MW01BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
12L4MW02AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	4.1	28	ND	ND	nt	280	nt	nt	nt	nt	nt	nt
12L4MW02BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.6	96(E)	ND	ND	nt	530	nt	nt	nt	nt	nt	nt
12L4MW03AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	9.9	ND	ND	nt	120	nt	nt	nt	nt	nt	nt
12L4MW03BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	4	ND	ND	nt	55	nt	nt	nt	nt	nt	nt
12L4MW04AW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	1.2	ND	ND	nt	25	nt	nt	nt	nt	nt	nt
12L4MW05AW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	3.8	ND	ND	nt	35	nt	nt	nt	nt	nt	nt
12L4MW07BW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2.3	nt	nt	nt	nt	nt	nt
12L4MW17W	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
12L4MW18W	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
12L4MW370W (field duplicate of 12L4MW07BW)	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2	nt	nt	nt	nt	nt	nt
MS/MSD (field duplicate of 12LCMW04DW)	9/29/2006	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	ND	ND	ND	ND	nt	nt	ND	ND	ND	ND	0.33	0.33	11	51	ND	nt
12LCMW0360W (field duplicate of 12LCMW04DW)	9/29/2006	Lacamas Cr.	0.12(J)	1.23	ND	0.09(J)	1.68(J)	0.99(J)	0.26(J)	0.029(J)	1.89	ND	ND	ND	4.39(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	52	ND	nitrate as N 0.24 mg/L; sulfate as SO_4 2.0 mg/L; chloride 2.1 mg/L
12LCMW0365W (field rinsate; deionized water)	9/29/2006	Field Office	ND	ND	ND	0.022(J)	ND	0.16(J)	0.07(J)	0.197(J)	0.63(J)	ND	ND	ND	2.20(J)	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	none above detection limits
Trip Blank TB-1	9/27/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank TB-2	9/29/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.02	0.04	0.01	0.02	0.01	0.02	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L		see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 3rd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
12LCMW01SW	9/28/2006	Lacamas Cr.	ND	0.20(J)	ND	0.03(J)	0.31(J)	0.05(J)	ND	0.049(J)	1.48	0.23(J)	ND	ND	2.78(J)	ND
12LCMW01DW	9/28/2006	Lacamas Cr.	ND	0.35(J)	ND	0.05(J)	0.09(J)	0.07(J)	ND	0.06(J0	1.23	0.42(J)	ND	ND	2.28(J)	4.5
12LCMW02SW	9/28/2006	Lacamas Cr.	0.12(J)	0.49(J)	0.03(J)	0.08(J)	0.25(J)	0.15(J)	0.02(J)	0.067(J)	1.03	0.41(J)	0.04(J)	0.03(J)	2.87(J)	1.6
12LCMW02DW	9/28/2006	Lacamas Cr.	ND	0.37(J)	ND	0.07(J)	0.19(J)	0.04(J)	ND	0.08(J)	2.13	ND	ND	ND	4.06(J)	ND
12LCMW03SW	9/28/2006	Lacamas Cr.	0.59(J)	0.40(J)	ND	0.056(J)	ND	0.27(J)	ND	0.05(J)	0.73(J)	0.56(J)	ND	ND	2.67(J)	2.1
12LCMW03DW	9/28/2006	Lacamas Cr.	ND	0.80(J)	ND	0.03(J)	0.10(J)	0.06(J)	ND	0.13(J)	1.13	0.53(J)	ND	ND	2.26(J)	ND
12LCMW04SW	9/29/2006	Lacamas Cr.	ND	0.09(J)	ND	ND	0.07(J)	0.14(J)	0.06(J)	0.04(J)	1.57	ND	ND	ND	4.22(J)	1.2
12LCMW04DW	9/29/2006	Lacamas Cr.	ND	1.23	ND	0.04(J)	ND	0.18(J)	0.043(J)	0.17(J)	1.31	ND	ND	ND	5.86(J)	ND
12L4MW01AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW01BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW02AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW02BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW03AW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW03BW	9/26/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW04AW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW05AW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW07BW	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW17W	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW18W	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
12L4MW370W (field duplicate of 12L4MW07BW)	9/27/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
MS/MSD (field duplicate of 12LCMW04DW)	9/29/2006	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND
12LCMW0360W (field duplicate of 12LCMW04DW)	9/29/2006	Lacamas Cr.	0.32(J)	1.28	ND	0.02(J)	2.99(J)	0.28(J)	0.021(J)	0.064(J)	2.28	ND	ND	ND	3.12(J)	ND
12LCMW0365W (field rinsate; deionized water)	9/29/2006	Field Office	ND	1.38	ND	0.49(J)	1.60(J)	0.77(J)	0.41(J)	0.043(J)	13.20	ND	ND	ND	50.1	ND
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 3rd QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)											SVOC (µg/l)
			Acetone	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane	Trichlorofluoromethane	Tetrachloroethene (PCE)	1,1,1-Trichloroethane	1,1,2,2 Tetrachloroethane	Tetrachloroethene	Chloroform	
12L4MW02BW	9/26/2006	Landfill 4	ND	ND	38	21	150	0.65(J)	ND	83	ND	0.72(J)	ND	nt
12L4MW05AW	9/27/2006	Landfill 4	ND	ND	ND	ND	ND	ND	0.6(J)	ND	ND	0.58(J)	ND	nt
12L4MW17W	9/27/2006	Landfill 4	1.9(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt
12LCMW0365W (field rinsate; deionized water)	9/29/2006	Field Office	ND	1.4 (J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab detection limit			5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0	2.0
Method A Cleanup Levels (µg/L)			n/a	n/a				200	n/a		5	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Acetone is a common laboratory solvent and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
12LCMW01SW	9/28/2006	1200	6.64	283.52	13.8	76	39	6.08	clear	
12LCMW01DW	9/28/2006	1235	7.16	283.09	12.9	79	40	6.06	clear	
12LCMW02SW	9/28/2006	1320	7.68	283.51	12.9	76	35	7.00	clear	
12LCMW02DW	9/28/2006	1345	8.36	283.23	13.2	85	43	6.79	clear	
12LCMW03SW	9/28/2006	1425	7.28	283.63	13.2	78	39	6.52	clear	
12LCMW03DW	9/28/2006	1445	7.60	283.38	12.4	87	43	6.66	clear	
12LCMW04SW	9/29/2006	1120	7.24	284.39	12.6	79	40	6.13	clear	
12LCMW04DW	9/29/2006	1150	7.68	284.11	11.9	99	50	6.75	clear	collected duplicate and MS/MSD
12L4MW01AW	9/26/2006	1135	17.22	514.18	12.6	26	13	4.82	clear	
12L4MW01BW	9/26/2006	1215	14.50	515.07	12.1	18	9	4.27	clear	
12L4MW02AW	9/26/2006	1345	29.18	490.75	13.9	21	10	4.00	clear	
12L4MW02BW	9/26/2006	1415	34.26	484.20	13.4	23	11	4.62	clear	
12L4MW03AW	9/26/2006	1250	30.90	483.95	13.3	15	7	4.09	clear	
12L4MW03BW	9/26/2006	1320	28.64	482.83	12.6	26	13	4.37	clear	
12L4MW04AW	9/27/2006	1030	28.90	482.89	12.0	13	6	4.66	cloudy	
12L4MW05AW	9/27/2006	1110	25.42	485.49	11.8	20	11	-	clear	
12L4MW07BW	9/27/2006	1215	40.80	439.62	11.5	26	12	5.12	clear	collected duplicate
12L4MW17W	9/27/2006	1320	11.18	350.30	13.3	265	134	-	clear	
12L4MW18W	9/27/2006	1255	12.10	350.74	13.2	144	58	-	slightly cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, and pH measured with a Hanna Model HI 991300 meter.
- = no reading; parameter meter malfunction

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	LA-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	LA-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 4th QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)													VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
13LCMW01SW	12/18/2006	Lacamas Cr.	ND	0.25(J)	ND	0.03(J)	0.46(J)	ND	ND	ND	0.69(J)	ND	ND	ND	3.36(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	43	< 4.0	nitrate as N 0.32 mg/L; chloride 1.5 mg/L
13LCMW01DW	12/18/2006	Lacamas Cr.	ND	0.40(J)	ND	0.21(J)	2.11(J)	ND	ND	ND	2.15	ND	ND	ND	2.70(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	44	< 4.0	sulfate as SO_4 1.5 mg/L; chloride 1.6 mg/L
13LCMW02SW	12/15/2006	Lacamas Cr.	ND	0.46(J)	ND	0.03(J)	0.81(J)	0.41(J)	0.024(J)	ND	0.71(J)	ND	0.073(J)	ND	1.51(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	44	< 4.0	chloride 1.6 mg/L
13LCMW02DW	12/15/2006	Lacamas Cr.	ND	0.48(J)	ND	0.15(J)	1.83(J)	0.53(J)	0.19(J)	ND	1.77	ND	0.083(J)	ND	3.17(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	43	< 4.0	sulfate as SO_4 1.5 mg/L; chloride 1.8 mg/L
13LCMW03SW	12/18/2006	Lacamas Cr.	ND	0.31(J)	ND	ND	0.66(J)	ND	ND	ND	0.67(J)	ND	ND	ND	1.75(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	42	< 4.0	nitrate as N 0.38 mg/L; chloride 1.5 mg/L
13LCMW03DW	12/18/2006	Lacamas Cr.	ND	0.60(J)	ND	ND	0.76(J)	ND	ND	ND	0.76(J)	ND	ND	ND	2.07(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	44	< 4.0	nitrate as N 0.4 mg/L; chloride 1.6 mg/L
13LCMW04SW	12/18/2006	Lacamas Cr.	0.093(J)	0.27(J)	ND	0.19 (J)	5.39	3.69	0.90(J)	ND	4.90	ND	0.036(J)	0.038(J)	12.20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	11	38	< 4.0	nitrate as N 0.7 mg/L; nitrite 0.031; chloride 2.2 mg/L
13LCMW04DW	12/18/2006	Lacamas Cr.	0.15(J)	1.16	ND	0.07(J)	2.44(J)	1.42(J)	0.27(J)	ND	1.97	ND	0.035(J)	ND	5.28(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	50	< 4.0	nitrate as N 0.25 mg/L; sulfate as SO_4 2.1 mg/L; chloride 2.0 mg/L
13L4MW01AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	6.3	nt	nt	nt	nt	nt	nt
13L4MW01BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
13L4MW02AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	3	20	ND	ND	nt	200	nt	nt	nt	nt	nt	nt
13L4MW02BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.2	79	ND	ND	nt	430	nt	nt	nt	nt	nt	nt
13L4MW03AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	9.5	ND	ND	nt	110	nt	nt	nt	nt	nt	nt
13L4MW03BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	3.8	ND	ND	nt	55	nt	nt	nt	nt	nt	nt
13L4MW04AW	12/14/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	1.5	ND	ND	nt	40	nt	nt	nt	nt	nt	nt
13L4MW05AW	12/14/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	3.4	ND	ND	nt	57	nt	nt	nt	nt	nt	nt
13L4MW07BW	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3.2	nt	nt	nt	nt	nt	nt
13L4MW17W	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
13L4MW18W	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
13L4MW380W (field duplicate of 13L4MW02BW)	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.4	82	ND	ND	nt	440	nt	nt	nt	nt	nt	nt
RPD for duplicate 13L4MW380W																					9%	4%				2%						
13LCMW0385W (field duplicate of 13LCMW02SW)	12/15/2006	Lacamas Cr.	ND	0.46(J)	ND	0.065(J)	1.29(J)	0.32(J)	0.026(J)	ND	0.62(J)	0.23(J)	0.075(J)	ND	2.38(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	chloride 1.6 mg/L
RPD for duplicate 13LCMW0385W				0%		74%	46%	25%	48%		14%		3%		45%															0%		0%
13LCMW0395W (field rinsate; deionized water)	12/18/2006	Field Office	ND	ND	ND	ND	0.59(J)	ND	ND	ND	0.067(J)	ND	ND	ND	1.32(J)	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	< 2	< 2.0	none above detection limits
Trip Blank	12/13/2006		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.02	0.04	0.01	0.02	0.01	0.02	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	2 - 4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 4TH QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
13LCMW01SW	12/18/2006	Lacamas Cr.	ND	0.24(J)	ND	0.073(J)	0.42(J)	ND	ND	ND	0.88(J)	ND	ND	ND	2.32(J)	< 1.0
13LCMW01DW	12/18/2006	Lacamas Cr.	ND	0.32(J)	ND	0.045(J)	ND	ND	ND	ND	0.82(J)	ND	ND	ND	2.56(J)	< 1.0
13LCMW02SW	12/15/2006	Lacamas Cr.	ND	0.48(J)	ND	ND	0.84(J)	0.097(J)	0.045(J)	ND	0.92(J)	0.14(J)	0.032(J)	ND	1.89(J)	< 1.0
13LCMW02DW	12/15/2006	Lacamas Cr.	ND	0.41(J)	ND	0.11(J)	ND	0.12(J)	ND	ND	0.78(J)	0.17(J)	ND	ND	1.82(J)	< 1.0
13LCMW03SW	12/18/2006	Lacamas Cr.	0.24(J)	0.26(J)	ND	ND	0.50(J)	ND	ND	ND	0.85(J)	ND	ND	ND	1.58(J)	< 1.0
13LCMW03DW	12/18/2006	Lacamas Cr.	ND	0.69(J)	ND	ND	ND	ND	ND	ND	0.50(J)	ND	ND	ND	2.12(J)	< 1.0
13LCMW04SW	12/18/2006	Lacamas Cr.	ND	0.07(J)	ND	ND	ND	ND	ND	ND	0.67(J)	ND	ND	ND	2.29(J)	< 1.0
13LCMW04DW	12/18/2006	Lacamas Cr.	ND	1.14	ND	ND	0.51(J)	ND	ND	ND	0.93(J)	ND	ND	ND	1.44(J)	< 1.0
13L4MW01AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW01BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW02AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW02BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW03AW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW03BW	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW04AW	12/14/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW05AW	12/14/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW07BW	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW17W	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW18W	12/15/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13L4MW380W (field duplicate of 13L4MW02BW)	12/13/2006	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
13LCMW0385W (field duplicate of 13LCMW02SW)	12/15/2006	Lacamas Cr.	ND	0.39(J)	ND	ND	0.77(J)	0.24(J)	ND	ND	0.98(J)	ND	0.033(J)	ND	1.49(J)	ND
RPD for duplicate 13LCMW0385W				21%			9%	85%			6%		3%		24%	
13LCMW0395W (field rinsate; deionized water)	12/18/2006	Field Office	ND	ND	ND	ND	0.61(J)	ND	ND	ND	0.19(J)	ND	ND	ND	1.47(J)	ND
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 4TH QUARTER 2006
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/L)											SVOC (µg/l)
			Acetone	Toluene	Benzene	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane	Trichlorofluoromethane	1,1,1-Trichloroethane	1,1,2,2 Tetrachloroethane	Tetrachloroethene	Chlorobenzene	bis(2-Ethylhexyl)phthalate
13L4MW02BW	12/13/2006	Landfill 4	ND	ND	ND	38	21	160	ND	77	ND	0.70(J)	ND	nt
13L4MW05AW	12/14/2006	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.56(J)	ND	nt
13LCMW02DW	12/15/2006	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.94(J)
13LCMW04DW	12/18/2006	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5(J)
13L4MW380W (field duplicate of 13L4MW02BW)	12/13/2006	Landfill 4	ND	ND	ND	39	22	150	ND	78	ND	0.68(J)	ND	nt
RPD for duplicate 13L4MW380W						3%	5%	7%		1%		3%		
13LCMW0385W (field duplicate of 13LCMW02SW)	12/15/2006	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8(J)
13LCMW0395W (field rinsate, deionized water)	12/18/2006	Field Office	3.8(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab detection limit			5.0	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0	4.7
Method A Cleanup Levels (µg/L)			n/a	n/a	5	n/a	n/a	n/a	n/a	200	n/a	5	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
Acetone is a common laboratory solvent and may indicate laboratory contamination.

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4TH QUARTER 2006
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
13LCMW01SW	12/18/2006	1130	4.16	286.00	11.1	79	39	6.51	clear	
13LCMW01DW	12/18/2006	1210	4.52	285.73	11.5	83	42	6.80	clear	
13LCMW02SW	12/15/2006	1435	4.07	287.12	10.7	80	41	6.96	clear	collected duplicate
13LCMW02DW	12/15/2006	1520	4.56	287.03	10.9	79	43	6.61	clear	
13LCMW03SW	12/18/2006	1330	3.91	287.00	11.4	78	40	6.97	clear	
13LCMW03DW	12/18/2006	1405	4.12	286.86	10.1	85	44	7.08	clear	
13LCMW04SW	12/18/2006	1515	3.84	287.79	10.5	75	37	6.53	clear	collected rinsate blank
13LCMW04DW	12/18/2006	1440	4.40	287.39	10.4	96	48	7.28	clear	
13L4MW01AW	12/13/2006	1130	14.72	516.68	12.0	36	17	5.58	clear	
13L4MW01BW	12/13/2006	1200	11.08	518.49	10.7	16	8	5.86	clear	
13L4MW02AW	12/13/2006	1245	25.26	494.67	11.9	52	26	5.18	clear	
13L4MW02BW	12/13/2006	1330	30.80	487.66	12.0	19	10	5.74	clear	collected duplicate
13L4MW03AW	12/13/2006	1430	27.79	487.06	11.3	13	6	5.61	clear	
13L4MW03BW	12/13/2006	1455	25.13	486.34	11.6	56	13	85.83	clear	
13L4MW04AW	12/14/2006	1455	26.40	485.39	11.9	12	6	5.83	clear	collected duplicate and MS/MSD
13L4MW05AW	12/14/2006	1350	21.10	489.81	12.1	36	18	5.74	clear	
13L4MW07BW	12/15/2006	1035	30.32	450.10	11.0	25	12	5.92	clear	
13L4MW17W	12/15/2006	1200	9.63	351.85	11.3	216	109	7.69	clear	
13L4MW18W	12/15/2006	1120	10.14	352.70	11.6	120	60	6.58	clear	

Notes: * = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, TDS, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 4th QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
17LCMW01SW	12/11/2007	Lacamas Cr.	ND	0.325(J)	0.043(J)	ND	0.37(J)	ND	0.164(J)	ND	0.955(J)	ND	ND	ND	8.37(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.12 mg/L; chloride 1.2 mg/L
17LCMW01DW	12/11/2007	Lacamas Cr.	ND	0.463(J)	ND	0.0996(J)	0.698(J)	ND	0.207(J)	ND	1.29	ND	ND	ND	3.93(J)	ND	Detect: see VOC/SVOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.21 mg/L; chloride 1.3 mg/L
17LCMW02SW	12/11/2007	Lacamas Cr.	0.577(J)	0.793(J)	ND	ND	1.85	12.30	4.09	ND	5.29	ND	ND	ND	104.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	42	< 4.0	nitrate as N 0.17 mg/L; chloride 1.5 mg/L
17LCMW02DW	12/11/2007	Lacamas Cr.	ND	0.537(J)	ND	ND	0.578(J)	1.21(J)	0.378(J)	ND	1.25	ND	ND	ND	10.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.21 mg/L; chloride 1.7 mg/L
17LCMW03SW	12/10/2007	Lacamas Cr.	ND	0.364(J)	ND	ND	0.557(J)	0.643(J)	0.185(J)	ND	1.01	ND	ND	ND	5.91(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	42	< 4.0	chloride 1.3 mg/L; nitrate as N 0.31 mg/L
17LCMW03DW	12/10/2007	Lacamas Cr.	ND	0.689(J)	ND	ND	0.64(J)	ND	0.145(J)	ND	1.13	ND	ND	ND	5.69(J)	ND	Detect: see VOC/SVOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	44	< 8.0	nitrate as N 0.39 mg/L; chloride 1.4 mg/L
17LCMW04SW	12/10/2007	Lacamas Cr.	ND	0.293(J)	0.0504(J)	0.138(J)	2.21	2.90	1.14	ND	3.21	ND	ND	ND	32.50	ND	Detect: see VOC/SVOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	48	36	< 4.0	chloride 2.2 mg/L; nitrate as N 0.87 mg/L; nitrite as N 0.013 mg/L
17LCMW04DW	12/10/2007	Lacamas Cr.	ND	1.21	ND	ND	0.68(J)	0.805(J)	0.232(J)	ND	1.24	ND	ND	ND	7.56(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	10	52	< 4.0	nitrate as N 0.19 mg/L; sulfate as SO_4 1.1 mg/L; chloride 1.4 mg/L
17L4MW01AW	12/13/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3.5	nt	nt	nt	nt	nt	nt
17L4MW01BW	12/13/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
17L4MW02AW	12/13/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	3.6	81	ND	ND	nt	230	nt	nt	nt	nt	nt	nt
17L4MW02BW	12/13/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.9	22	ND	ND	nt	430	nt	nt	nt	nt	nt	nt
17L4MW03AW	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	10	ND	ND	nt	96	nt	nt	nt	nt	nt	nt
17L4MW03BW	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	4.1	ND	ND	nt	44	nt	nt	nt	nt	nt	nt
17L4MW04AW	12/13/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	1.9	ND	ND	nt	29	nt	nt	nt	nt	nt	nt
17L4MW05AW	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	3.8	ND	ND	nt	39	nt	nt	nt	nt	nt	nt
17L4MW07BW	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
17L4MW17W	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
17L4MW18W	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
17L4MW455W (field duplicate of 17L4MW03BW)	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	4.8	ND	ND	nt	42	nt	nt	nt	nt	nt	nt
RPD for duplicate 17L4MW455W																						16%				5%						
MS/MSD (lab duplicate of 17LCMW02DW)	12/11/2007	Lacamas Cr.	ND	0.537(J)	ND	ND	0.578(J)	1.211	0.378(J)	ND	1.25	ND	ND	ND	10.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 1	44	< 8.0	sulfate as SO4 0.8 mg/L; chloride 1.7 mg/L; nitrate as N 0.21 mg/L
17LCMW450W (field duplicate of 17LCMW04DW)	12/10/2007	Lacamas Cr.	ND	1.27	ND	ND	0.75(J)	0.945(J)	0.261(J)	ND	1.26	ND	ND	ND	9.07(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	6	52	< 4.0	nitrate as N 0.18 mg/L; sulfate as SO4 1.2 mg/L; chloride 1.5 mg/L
RPD for duplicate 17LCMW450W				5%			10%	24%	12%		2%				18%													50%	0%		
17L4MW445W (field equipment rinsate)	12/13/2007	Landfill 4	ND	ND	ND	ND	0.201(J)	0.844(J)	0.237(J)	ND	0.344(J)	ND	ND	ND	7.93(J)	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3.0	< 2	< 2.0	none above detection limits
Trip Blank 1	12/10/2007	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 2	12/11/2007	Lacamas Cr.	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 3	12/12/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 4	12/13/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.056	0.10	0.043	0.094	0.12	0.52	0.075	0.018	0.11	0.11	0.085	0.044	1.80	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.4 µg/L	1.1 µg/L	1.0 µg/L	1.4 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND DOC - 4th QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
17LCMW01SW	12/11/2007	Lacamas Cr.	ND	0.254(J)	ND	0.143(J)	1.19	0.678(J)	0.0876(J)	ND	2.32	ND	ND	ND	5.05(J)	< 1.0
17LCMW01DW	12/11/2007	Lacamas Cr.	ND	0.457(J)	ND	ND	0.312(J)	ND	ND	ND	1.22	ND	ND	ND	2.85(J)	< 1.0
17LCMW02SW	12/11/2007	Lacamas Cr.	0.175(J)	0.567(J)	ND	0.11(J)	0.373(J)	ND	ND	ND	1.10	ND	ND	ND	2.83(J)	< 1.0
17LCMW02DW	12/11/2007	Lacamas Cr.	ND	0.447(J)	ND	0.103(J)	0.333(J)	ND	ND	ND	1.35	ND	ND	ND	2.81(J)	< 1.0
17LCMW03SW	12/10/2007	Lacamas Cr.	ND	0.368(J)	ND	0.11(J)	0.573(J)	0.756(J)	0.215(J)	ND	1.46	ND	ND	ND	7.52(J)	< 1.0
17LCMW03DW	12/10/2007	Lacamas Cr.	0.201(J)	0.715(J)	ND	ND	1.23	5.21	1.61	ND	3.47	ND	ND	ND	48.5	< 1.0
17LCMW04SW	12/10/2007	Lacamas Cr.	ND	ND	ND	ND	0.773(J)	1.66(J)	0.47(J)	ND	2.56	ND	ND	ND	13.3(J)	< 1.0
17LCMW04DW	12/10/2007	Lacamas Cr.	ND	1.15	ND	0.108(J)	0.431(J)	0.976(J)	0.271(J)	ND	1.23	ND	ND	ND	9.28(J)	< 1.0
MS/MSD (lab duplicate of 17LCMW02DW)	12/11/2007	Lacamas Cr.	ND	0.447(J)	ND	0.103(J)	0.334(J)	ND	ND	ND	1.347	ND	ND	ND	2.809(J)	< 1.0
17LCMW450W (field duplicate of 17LCMW04DW)	12/10/2007	Lacamas Cr.	ND	1.17	ND	0.094(J)	0.553(J)	0.520 (J)	0.0972(J)	ND	1.18	ND	ND	ND	5.14(J)	< 1.0
RPD for duplicate 17LCMW450W				2%		14%	25%	61%	94%		4%				57%	
17L4MW445W (field equipment rinsate)	12/13/2007	Landfill 4	0.379(J)	0.109(J)	ND	0.102(J)	1.37	8.95	2.63	ND	3.11	ND	ND	ND	63.7	< 1.0
Lab detection limit			0.056	0.10	0.043	0.094	0.12	0.52	0.075	0.018	0.11	0.11	0.085	0.044	1.80	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
4th QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/l)									SVOCs (µg/l)
			Acetone	Bromodichloromethane	Chloroform	1,1-Dichloroethane	Dichlorodifluoromethane	Trichloroethene	1,1,1-Trichloroethane	Tetrachloroethene	1,1,2,2-Tetrachloroethane	bis(2-Ethylhexyl)phthalate
17L4MW02BW	12/13/2007	Landfill 4	2.5(J)	ND	ND	27	43	0.22(J)	40	0.54(J)	0.47(J)	nt
17L4MW05AW	12/12/2007	Landfill 4	ND	ND	ND	ND	ND	ND	ND	0.46(J)	ND	nt
17LCMW01DW	12/11/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3(J,B)
17LCMW03DW	12/10/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.74(J,B)
17LCMW04SW	12/10/2008	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0 (J,B)
17L4MW445W (field equipment rinsate)	12/13/2007	Landfill 4	ND	0.31(J)	11	ND	ND	ND	ND	ND	ND	ND
Lab detection limit			5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	n/a	n/a	n/a	n/a	200	5	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample. Presence is due to laboratory contamination.
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 4th QUARTER 2007
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling									
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp. (degrees C)	Conductivity (µS/cm)	Oxidation Reduction Potential (millivolts)	Turbidity (NTUs)	pH	Dissolved Oxygen (mg/L)	Color and Cloudiness	Notes
17LCMW01SW	12/11/2007	1425	4.74	285.42	11.47	97	-42.1	2.62	7.52	6.48	clear	
17LCMW01DW	12/11/2007	1305	5.02	285.23	10.99	101	-41.8	1.26	7.58	7.00	clear	
17LCMW02SW	12/11/2007	1115	4.97	286.22	11.82	99	-20.7	2.34	7.46	7.57	clear	
17LCMW02DW	12/11/2007	0940	5.34	286.25	11.44	102	-1.5	4.78	7.36	7.36	clear	collected MS/MSD duplicate
17LCMW03SW	12/10/2007	1510	4.19	286.72	11.75	93	-25.9	2.11	7.13	9.41	clear	
17LCMW03DW	12/10/2007	1400	4.28	286.70	11.42	101	-10.9	1.22	7.11	9.51	clear	
17LCMW04SW	12/10/2007	1240	4.02	287.61	10.96	95	14.1	11.73	6.49	9.01	slightly cloudy	
17LCMW04DW	12/10/2007	1035	4.63	287.16	10.83	111	-0.3	4.09	7.14	9.27	clear	collected duplicate
17L4MW01AW	12/13/2007	0900	16.56	514.84	13.33	61	51.6	4.68	5.60	7.09	clear	
17L4MW01BW	12/13/2007	1005	13.37	516.20	10.22	28	31.1	18.50	5.77	10.05	clear	
17L4MW02AW	12/13/2007	1545	25.73	494.20	12.67	38	23.0	31.49	5.35	9.09	clear	
17L4MW02BW	12/13/2007	1425	31.65	486.81	11.68	67	-85.0	2.01	6.09	1.12	clear	
17L4MW03AW	12/12/2007	1400	29.86	484.99	12.23	24	47.1	6.06	5.68	10.12	clear	
17L4MW03BW	12/12/2007	1235	26.55	484.92	10.55	47	37.5	15.05	6.19	8.13	clear	collected duplicate
17L4MW04AW	12/13/2007	1125	27.40	484.39	12.43	20	23.4	4.47	5.63	6.92	clear	
17L4MW05AW	12/12/2007	1510	23.85	486.06	11.73	30	30.1	3.18	5.87	8.49	clear	
17L4MW07BW	12/12/2007	1045	39.53	441.27	11.73	36	40.5	2.03	6.07	8.69	clear	
17L4MW17W	12/12/2007	0835	10.67	350.81	10.84	257	-60.5	5.75	7.58	5.17	clear	
17L4MW18W	12/12/2007	0955	11.32	351.52	12.26	140	1.8	16.83	6.78	10.42	slightly cloudy	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of PVC casing elevation survey (see elevations, Table 8)
nr = value not recorded
Field parameters of temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and pH measured with a YSI Model 556 meter.
Turbidity measured with Oaktron T100 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	46-56	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 1ST QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
14LCMW01SW	3/21/2007	Lacamas Cr.	ND	0.256(J)	0.217(J)	ND	1.39(J)	ND	ND	ND	.719(J)	ND	ND	ND	1.89(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	4	44	< 4.0	chloride 1.4 mg/L
14LCMW01DW	3/21/2007	Lacamas Cr.	ND	0.35(J)	ND	ND	3.06	ND	ND	0.066(J)	1.47	ND	ND	ND	2.54(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	46	< 4.0	chloride 1.8 mg/L
14LCMW02SW	3/21/2007	Lacamas Cr.	ND	0.504(J)	ND	ND	0.76(J)	ND	ND	0.042(J)	0.763(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2.0	44	< 4.0	chloride 2.2 mg/L
14LCMW02DW	3/21/2007	Lacamas Cr.	0.172(J)	0.524(J)	ND	0.359(J)	3.77(J)	1.16(J)	0.45(J)	0.052(J)	3.63	ND	ND	ND	5.14(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	22	45	< 4.0	sulfate as SO_4 1.5 mg/L; chloride 1.8 mg/L
14LCMW03SW	3/21/2007	Lacamas Cr.	ND	0.315(J)	ND	ND	0.466(J)	ND	ND	ND	0.577(J)	ND	ND	ND	ND	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	5	44	< 4.0	nitrate as N 0.22 mg/L; chloride 2.0 mg/L
14LCMW03DW	3/21/2007	Lacamas Cr.	ND	0.568(J)	ND	ND	1.75(J)	ND	ND	0.026(J)	0.898(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	6	47	< 4.0	nitrate as N 0.4 mg/L; chloride 1.8 mg/L
14LCMW04SW	3/22/2007	Lacamas Cr.	0.383(J)	0.189(J)	ND	0.095(J)	2.97(J)	1.69(J)	0.382(J)	0.128(J)	2.06	ND	ND	ND	5.75(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	22	38	< 4.0	nitrate as N 0.86 mg/L; chloride 2.3 mg/L
14LCMW04DW	3/22/2007	Lacamas Cr.	ND	1.08	ND	0.116(J)	6.48	1.22(J)	0.22(J)	ND	3.79	0.171(J)	ND	ND	4.57(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	34	52	< 4.0	nitrate as N 0.26 mg/L; chloride 2.1 mg/L
14L4MW01AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3.8	nt	nt	nt	nt	nt	nt
14L4MW01BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
14L4MW02AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	2.9	19	ND	ND	nt	150	nt	nt	nt	nt	nt	nt
14L4MW02BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.7	99(E)	ND	ND	nt	520	nt	nt	nt	nt	nt	nt
14L4MW03AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	13	ND	ND	nt	100	nt	nt	nt	nt	nt	nt
14L4MW03BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	5.1	ND	ND	nt	48	nt	nt	nt	nt	nt	nt
14L4MW04AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	1.9	ND	ND	nt	24	nt	nt	nt	nt	nt	nt
14L4MW05AW	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	3.5	ND	ND	nt	36	nt	nt	nt	nt	nt	nt
14L4MW07BW	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	20	nt	nt	nt	nt	nt	nt
14L4MW17W	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
14L4MW18W	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
14L4MW410W (field duplicate of 14L4MW05AW)	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	3.9	ND	ND	nt	34	nt	nt	nt	nt	nt	nt
RPD for duplicate 14L4MW05AW																						11%				6%						
MS/MSD (field duplicate of 14LCMW04DW)	3/22/2007	Lacamas Cr.	ND	1.084	ND	0.116(J)	6.476	1.221(J)	0.022(J)	ND	3.794	0.171(J)	ND	ND	4.57(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	0.91	0.23	0.186	nt	nt	nt	nitrate as N 0.26 mg/L; sulfate as SO4 1.84 mg/L; chloride 1.81 mg/L
14LCMW405W (field duplicate of 14LCMW01DW)	3/21/2007	Lacamas Cr.	ND	0.37(J)	ND	ND	2.92(J)	ND	ND	0.123(J)	1.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	48	< 4.0	chloride 1.6 mg/L
RPD for duplicate 14LCMW01DW				6%			5%			60%	10%																		4%			
14LCMW400W (field rinsate at well LCMW18; deionized water)	3/22/2007	Landfill 4	ND	ND	ND	ND	0.494(J)	ND	ND	ND	0.262(J)	ND	ND	ND	1.93(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	< 2	< 2.0	none above detection limits
Trip Blank 1	3/19/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 2	3/21/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 2	3/22/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.02	0.04	0.01	0.02	0.01	0.02	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.5 µg/L	1.2 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	2 - 4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

TABLE 5. DISSOLVED METALS AND DOC - 1ST QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
14LCMW01SW	3/21/2007	Lacamas Cr.	ND	0.195(J)	ND	ND	1.55(J)	ND	ND	0.043(J)	1.33	ND	ND	ND	ND	< 1.0
14LCMW01DW	3/21/2007	Lacamas Cr.	ND	0.398(J)	ND	ND	1.07(J)	0.937(J)	ND	ND	1.14	ND	ND	ND	1.91(J)	< 1.0
14LCMW02SW	3/21/2007	Lacamas Cr.	ND	0.498(J)	ND	ND	1.57(J)	ND	ND	0.046(J)	1.42	ND	ND	ND	1.98(J)	< 1.0
14LCMW02DW	3/21/2007	Lacamas Cr.	ND	0.466(J)	ND	ND	1.37(J)	ND	ND	0.057(J)	2.25	ND	ND	ND	ND	< 1.0
14LCMW03SW	3/21/2007	Lacamas Cr.	ND	0.296(J)	ND	ND	0.499(J)	ND	ND	ND	0.928(J)	ND	ND	ND	ND	< 1.0
14LCMW03DW	3/21/2007	Lacamas Cr.	ND	0.636(J)	ND	ND	2.16(J)	ND	ND	0.082(J)	1.93	ND	ND	ND	ND	< 1.0
14LCMW04SW	3/22/2007	Lacamas Cr.	0.096(J)	ND	ND	ND	0.10(J)	ND	ND	0.056(J)	1.18	ND	ND	ND	ND	< 1.0
14LCMW04DW	3/22/2007	Lacamas Cr.	0.217(J)	1.05	ND	ND	1.14(J)	ND	ND	0.068(J)	1.74	ND	ND	ND	ND	< 1.0
14L4MW01AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW01BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW02AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW02BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW03AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW03BW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW04AW	3/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW05AW	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW07BW	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW17W	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW18W	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
14L4MW410W (field duplicate of 14L4MW05AW)	3/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
MS/MSD (field duplicate of 14LCMW04DW)	3/22/2007	Landfill 4	0.217(J)	1.05	0.215	ND	1.136	ND	ND	0.068(J)	1.74	ND	ND	ND	ND	ND
14LCMW405W (field duplicate of 14LCMW01DW)	3/21/2007	Lacamas Cr.	ND	0.359(J)	ND	ND	0.683(J)	ND	ND	0.021(J)	1.33	ND	ND	ND	ND	ND
RPD for duplicate 14LCMW01DW				10%			44%				15%					
14LCMW400W (field rinsate at well LCMW18; deionized water)	3/22/2007	Landfill 4	ND	ND	ND	ND	0.456(J)	ND	ND	0.072	0.421(J)	ND	ND	ND	ND	ND
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
1st QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/l)					SVOCs (µg/l)	
			1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane	1,1,1-Trichloroethane	Tetrachloroethene	Benzoic Acid	bis(2-Ethylhexyl)phthalate
14L4MW02BW	3/20/2007	Landfill 4	30	17	97	60	0.70(J)	nt	nt
14L4MW05AW	3/19/2007	Landfill 4	ND	ND	ND	ND	0.48(J)	nt	nt
14LCMW03SW	3/21/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	1.2(J,B)
14LCMW04DW	3/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	3.3(J)	1.7(J,B)
14LCMW04SW	3/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	0.96(J,B)
14LCMW400W (field rinsate, deionized water)	3/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	3.6(J)	1.3(J,B)
14L4MW410W (field duplicate of 14L4MW05AW)	3/19/2007	Landfill 4	ND	ND	ND	ND	0.44(J)	ND	ND
RPD for duplicate 14L4MW05AW	3/19/2007	Landfill 4					9%		
MS/MSD (field duplicate of 14LCMW04DW)	3/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	3.3	1.67
Lab detection limit			1.0	1.0	1.0	1.0	1.0	3.3	1.7
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1ST QUARTER 2007
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling							
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp (degrees C)	Conductivity (µS/cm)	Total Dissolved Solids (ppm)	pH	Color and Relative Turbidity	Notes
14LCMW01SW	3/21/2007	1240	4.62	285.54	10.7	79	39	6.95	clear	
14LCMW01DW	3/21/2007	1315	5.07	285.18	11.7	84	42	7.06	clear	collected duplicate
14LCMW02SW	3/21/2007	1425	5.64	285.55	11.8	87	43	6.98	clear	
14LCMW02DW	3/21/2007	1500	4.97	286.62	11.4	83	42	6.94	clear	
14LCMW03SW	3/21/2007	1540	4.55	286.36	10.9	81	41	6.85	clear	
14LCMW03DW	3/21/2007	1610	4.72	286.26	11.5	90	45	6.95	clear	
14LCMW04SW	3/22/2007	1245	5.16	286.47	11.3	97	49	7.15	slightly cloudy	
14LCMW04DW	3/22/2007	1210	4.43	287.36	9.9	76	38	6.39	clear	collected MS/MSD duplicate
14L4MW01AW	3/20/2007	1545	16.07	515.33	11.0	18	10	5.45	clear	
14L4MW01BW	3/20/2007	1515	12.12	517.48	10.4	18	9	5.85	clear	
14L4MW02AW	3/20/2007	1200	25.24	494.69	11.5	45	21	5.28	clear	
14L4MW02BW	3/20/2007	1130	31.37	487.13	11.9	27	13	5.73	clear	
14L4MW03AW	3/20/2007	1315	29.03	485.87	12.4	15	8	5.53	clear	
14L4MW03BW	3/20/2007	1245	26.02	485.48	11.6	26	13	5.6	clear	
14L4MW04AW	3/20/2007	1050	27.14	484.66	12.4	14	7	5.56	clear	
14L4MW05AW	3/19/2007	1550	23.27	486.63	11.6	20	10	4.97	clear	collected duplicate
14L4MW07BW	3/19/2007	1450	38.87	441.93	11.2	28	14	5.47	clear	
14L4MW17W	3/19/2007	1400	10.49	350.99	11.0	230	118	7.01	clear	
14L4MW18W	3/19/2007	1430	11.20	351.64	11.2	131	66	6.09	clear	

Notes: * = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
Field parameters of temperature, conductivity, TDS, and pH measured with a Hanna Model HI 991300 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.80	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 2nd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
15LCMW01SW	6/21/2007	Lacamas Cr.	0.188(J)	0.231(J)	ND	ND	3.87(J)	ND	ND	ND	2.40	0.264(J)	ND	ND	2.83(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	42	< 4.0	chloride 1.3 mg/L
15LCMW01DW	6/21/2007	Lacamas Cr.	0.096(J)	0.386(J)	ND	0.131(J)	1.01(J)	ND	ND	ND	1.16	ND	ND	ND	3.19(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	chloride 1.5 mg/L
15LCMW02SW	6/21/2007	Lacamas Cr.	0.247(J)	0.431(J)	ND	ND	ND	ND	ND	ND	0.616(J)	0.184(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	42	< 4.0	chloride 1.6 mg/L
15LCMW02DW	6/21/2007	Lacamas Cr.	0.077(J)	0.570(J)	ND	0.104(J)	0.769(J)	ND	ND	ND	0.961(J)	0.122(J)	ND	ND	2.50(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.23 mg/L; sulfate as SO_4 1.0 mg/L; chloride 2.1 mg/L
15LCMW03SW	6/22/2007	Lacamas Cr.	ND	0.544(J)	ND	ND	0.206(J)	ND	ND	ND	0.534(J)	0.145(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	42	< 4.0	nitrate as N 0.25 mg/L; chloride 1.5 mg/L
15LCMW03DW	6/22/2007	Lacamas Cr.	ND	0.797(J)	ND	ND	0.312(J)	ND	ND	ND	0.624(J)	ND	ND	ND	2.17(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.33 mg/L; chloride 1.7 mg/L
15LCMW04SW	6/22/2007	Lacamas Cr.	ND	0.145(J)	ND	ND	0.621(J)	ND	ND	ND	0.767(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	38	< 4.0	nitrate as N 1.1 mg/L; chloride 2.7 mg/L
15LCMW04DW	6/22/2007	Lacamas Cr.	ND	1.10	ND	ND	0.589(J)	ND	ND	ND	0.761(J)	ND	ND	ND	2.82(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	49	< 4.0	sulfate as SO_4 1.7 mg/L; chloride 1.9 mg/L
15L4MW01AW	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	1.9	nt	nt	nt	nt	nt	nt
15L4MW01BW	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
15L4MW02AW	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	3.2	20	ND	ND	nt	170	nt	nt	nt	nt	nt	nt
15L4MW02BW	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.9	78(E)	ND	ND	nt	290	nt	nt	nt	nt	nt	nt
15L4MW03AW	6/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	9.7	ND	ND	nt	94	nt	nt	nt	nt	nt	nt
15L4MW03BW	6/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	3.2	ND	ND	nt	44	nt	nt	nt	nt	nt	nt
15L4MW04AW	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	1.8	ND	ND	nt	40	nt	nt	nt	nt	nt	nt
15L4MW05AW	6/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	2.5	ND	ND	nt	39	nt	nt	nt	nt	nt	nt
15L4MW07BW	6/18/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	3.0	nt	nt	nt	nt	nt	nt
15L4MW17W	6/18/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	1.7	nt	nt	nt	nt	nt	nt
15L4MW18W	6/18/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
15L4MW425W (field duplicate of 15L4MW02BW)	6/19/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	2.9	58(E)	ND	ND	nt	290	nt	nt	nt	nt	nt	nt
RPD for duplicate 15L4MW02BW																					29%	29%				0%						
MS/MSD (field duplicate of 15LCMW01DW)	6/21/2007	Lacamas Cr.	0.096(J)	0.386(J)	ND	0.131(J)	1.015(J)	ND	ND	ND	1.161	ND	ND	ND	3.187(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	nt	< 1	44	0	chloride 1.5 mg/L
15LCMW415W (field duplicate of 15LCMW03DW)	6/22/2007	Lacamas Cr.	0.181(J)	0.788(J)	ND	ND	0.304(J)	ND	ND	ND	0.607(J)	0.188(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 4.0	nitrate as N 0.29 mg/L; chloride 1.7 mg/L
RPD for duplicate 15LCMW03DW				1%			3%				3%																		0%			
15LCMW420W (field equipment rinsate)	6/20/2007	Lacamas Cr.	0.26(J)	ND	ND	0.143(J)	0.991(J)	ND	ND	ND	0.216(J)	ND	ND	ND	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<2	< 2	< 2.0	none above detection limits
15LCMW430W (metals blank; deionized water)	6/20/2007		ND	ND	ND	0.372(J)	0.456(J)	ND	ND	ND	0.735(J)	ND	ND	ND	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 1	6/18/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 2	6/19/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 3	6/20/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 4	6/21/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 5	6/2/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.02	0.04	0.01	0.02	0.01	0.02	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.4 µg/L	1.1 µg/L	0.94-1 µg/L	1.0 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	2 - 4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND DOC - 2nd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
15LCMW01SW	6/21/2007	Lacamas Cr.	ND	0.160(J)	ND	0.096(J)	1.18	ND	ND	ND	1.31	ND	ND	ND	2.27(J)	< 1.0
15LCMW01DW	6/21/2007	Lacamas Cr.	ND	0.382(J)	ND	ND	0.756(J)	ND	ND	ND	1.33	ND	ND	ND	1.99(J)	< 1.0
15LCMW02SW	6/21/2007	Lacamas Cr.	0.303(J)	0.443(J)	ND	0.099(J)	0.632(J)	ND	ND	ND	1.09	ND	ND	ND	ND	< 1.0
15LCMW02DW	6/21/2007	Lacamas Cr.	0.087(J)	0.487(J)	ND	ND	0.273(J)	ND	ND	ND	0.601(J)	ND	ND	ND	2.37(J)	< 1.0
15LCMW03SW	6/22/2007	Lacamas Cr.	0.205(J)	0.499(J)	ND	ND	0.356(J)	ND	ND	ND	0.781(J)	ND	ND	ND	ND	< 1.0
15LCMW03DW	6/22/2007	Lacamas Cr.	ND	0.745(J)	ND	ND	0.596(J)	ND	ND	ND	1.60	ND	ND	ND	ND	< 1.0
15LCMW04SW	6/22/2007	Lacamas Cr.	ND	0.110(J)	ND	ND	0.585(J)	ND	ND	ND	.0846(J)	ND	ND	ND	2.11(J)	< 1.0
15LCMW04DW	6/22/2007	Lacamas Cr.	ND	1.16	ND	ND	0.481(J)	ND	ND	ND	1.07	ND	ND	ND	2.89	< 1.0
MS/MSD (field duplicate of 15LCMW01DW)	6/21/2007	Landfill 4	ND	0.382(J)	ND	ND	0.756(J)	ND	ND	ND	1.33	ND	ND	ND	1.99(J)	< 1.0
15LCMW415W (field duplicate of 15LCMW03DW)	6/22/2007	Lacamas Cr.	ND	0.787(J)	ND	ND	0.349(J)	ND	ND	ND	1.41	ND	ND	ND	ND	ND
RPD for duplicate 15LCMW03DW				5%			52%				13%					
15LCMW420W (field equipment rinsate)	6/20/2007	Lacamas Cr.	ND	ND	ND	0.388(J)	0.835(J)	ND	ND	ND	1.13	ND	ND	ND	ND	< 1.0
15LCMW430W (metals blank; deionized water)	6/20/2007		ND	ND	ND	0.609(J)	0.585(J)	ND	ND	ND	0.138(J)	ND	ND	ND	1.85(J)	nt
Lab detection limit			0.08	0.03	0.02	0.02	0.04	0.08	0.002	0.013	0.04	0.01	0.02	0.01	0.02	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
2nd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/l)										SVOCs (µg/l)	
			Acetone	2-Butanone	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane	Methylene Chloride	1,1,1-Trichloroethane	Tetrachloroethene	1,1,2,2-Tetrachloroethane	Benzoic Acid	bis(2-Ethylhexyl)phthalate
15L4MW02BW	6/19/2007	Landfill 4	3.2(J)	2.0(J)	ND	33	17	80	ND	51	0.65(J)	0.51(J)	nt	nt
15LCMW420W (field equipment rinsate)	6/20/2007	Lacamas Cr.	2.4(J)	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND
15LCMW430W (metals blank; deionized water)	6/20/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
15L4MW425W (field duplicate of 15L4MW02BW)	6/19/2007	Landfill 4	3.1(J)	1.8(J)	ND	32	15	69	ND	50	0.64(J)	0.52(J)	nt	nt
RPD for duplicate 15L4MW02BW			3%	11%		3%	13%	15%		2%	2%	2%		
Trip Blank 3	6/20/2007	Lacamas Cr.	0.79(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt	nt
Trip Blank 4	6/21/2007	Lacamas Cr.	1.1(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt	nt
Trip Blank 5	6/22/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	1.0	ND	ND	ND	nt	nt
Lab detection limit			5.0	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.3	1.7
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 2nd QUARTER 2007
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling									
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp. (degrees C)	Conductivity (µS/cm)	Oxidation Reduction Potential (millivolts)	Turbidity (NTUs)	pH	Dissolved Oxygen (mg/L)	Color and Cloudiness	Notes
15LCMW01SW	6/21/2007	1100	5.85	284.31	12.0	91	129.9	1.02	6.44	6.99	clear	
15LCMW01DW	6/21/2007	1245	5.21	285.04	13.1	98	93.1	2.33	6.47	7.36	clear	collected MS/MSD duplicate
15LCMW02SW	6/21/2007	1500	6.82	284.37	13.2	92	129.5	0.93	5.84	8.62	clear	
15LCMW02DW	6/21/2007	1650	6.60	284.99	12.7	97	133.5	1.74	6.94	7.36	clear	
15LCMW03SW	6/22/2007	1255	6.46	284.45	11.3	91	135.3	0.63	6.28	8.19	clear	
15LCMW03DW	6/22/2007	1045	6.34	284.64	11.3	100	152.0	nr	6.27	7.19	clear	collected duplicate
15LCMW04SW	6/22/2007	1615	6.44	285.19	12.6	94	154.9	3.99	5.82	5.82	clear	
15LCMW04DW	6/22/2007	1500	5.96	285.83	11.9	110	111.6	0.93	6.51	6.99	clear	
15L4MW01AW	6/19/2006	1055	16.21	515.19	12.2	36	228.7	32	5.04	10.28	clear	
15L4MW01BW	6/19/2006	0950	13.42	516.18	10.4	26	205.7	4.72	5.18	7.89	clear	
15L4MW02AW	6/20/2007	1000	27.49	492.44	14.6	41	238.6	nr	4.86	7.89	clear	
15L4MW02BW	6/19/2006	1630	31.22	487.24	15.0	69	-25.6	nr	5.6	2.08	clear	collected duplicate
15L4MW03AW	6/20/2007	1120	29.60	485.25	15.9	22	210.7	8.47	4.93	6.57	clear	
15L4MW03BW	6/20/2007	1350	26.80	484.67	14.6	49	136.3	nr	5.51	5.91	clear	
15L4MW04AW	6/19/2006	1215	27.32	484.47	14.8	18	199.0	6.15	5.19	7.99	clear	
15L4MW05AW	6/20/2007	1515	23.88	486.03	13.2	28	216.2	4.67	5.11	6.80	clear	
15L4MW07BW	6/18/2007	1600	39.91	440.51	12.1	34	191.0	10.89	5.29	9.36	clear	
15L4MW17W	6/18/2007	1355	10.69	350.79	14.0	232	-36.4	11.81	7.11	6.09	clear	
15L4MW18W	6/18/2007	1450	11.78	351.06	12.6	130	90.7	46.7	6.20	11.10	clear	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
nr = value not recorded
Field parameters of temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and pH measured with a YSI Model 556 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	N/A	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

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TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 3rd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)												VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX									
16LCMW01SW	9/17/2007	Lacamas Cr.	0.293(J)	0.218(J)	ND	ND	ND	0.986(J)	ND	0.04(J)	0.704(J)	ND	ND	ND	1.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	48	< 8.0	chloride 1.3 mg/L
16LCMW01DW	9/17/2007	Lacamas Cr.	ND	0.340(J)	ND	ND	.0740(J)	ND	ND	0.021(J)	1.24	ND	ND	ND	2.93(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	52	< 8.0	sulfate as SO_4 1.0 mg/L; chloride 1.4 mg/L
16LCMW02SW	9/17/2007	Lacamas Cr.	ND	0.356(J)	ND	0.097(J)	ND	0.848(J)	ND	0.026(J)	1.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	3	44	< 8.0	chloride 1.4 mg/L
16LCMW02DW	9/17/2007	Lacamas Cr.	ND	0.450(J)	ND	ND	0.728(J)	0.875(J)	ND	0.032(J)	1.53	ND	ND	ND	2.31(J)	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	48	< 8.0	chloride 1.7 mg/L
16LCMW03SW	9/19/2007	Lacamas Cr.	ND	0.393(J)	ND	0.127(J)	0.983(J)	ND	ND	ND	0.905(J)	0.258(J)	ND	ND	3.12(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 8.0	nitrate as N 0.27 mg/L; chloride 1.3 mg/L
16LCMW03DW	9/19/2007	Lacamas Cr.	0.175(J)	0.657(J)	ND	0.140(J)	2.21(J)	ND	ND	ND	1.40	0.220 (J)	ND	ND	5.48(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	44	< 8.0	nitrate as N 0.30 mg/L; chloride 1.5 mg/L
16LCMW04SW	9/19/2007	Lacamas Cr.	0.136(J)	0.128(J)	ND	0.168(J)	1.01(J)	ND	ND	ND	0.878(J)	0.264(J)	ND	ND	3.75(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	40	< 8.0	nitrate as N 0.81 mg/L; chloride 2.2 mg/L
16LCMW04DW	9/19/2007	Lacamas Cr.	0.057(J)	1.03	ND	0.139(J)	2.51(J)	1.05(J)	ND	ND	1.97	0.237(J)	ND	ND	4.42(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 2	56	< 8.0	sulfate as SO_4 1.5 mg/L; chloride 1.6 mg/L
16L4MW01AW	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	1.5	nt	nt	nt	nt	nt	nt
16L4MW01BW	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
16L4MW02AW	9/24/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	4.6	30	ND	ND	nt	280	nt	nt	nt	nt	nt	nt
16L4MW02BW	9/24/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.8	86(E)	ND	ND	nt	380	nt	nt	nt	nt	nt	nt
16L4MW03AW	9/21/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	10	ND	ND	nt	94	nt	nt	nt	nt	nt	nt
16L4MW03BW	9/21/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	4.7	ND	ND	nt	43	nt	nt	nt	nt	nt	nt
16L4MW04AW	9/21/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	2.1	ND	ND	nt	29	nt	nt	nt	nt	nt	nt
16L4MW05AW	9/21/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	ND	4.1	ND	ND	nt	41	nt	nt	nt	nt	nt	nt
16L4MW07BW	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	2.1	nt	nt	nt	nt	nt	nt
16L4MW17W	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
16L4MW18W	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	ND	nt	nt	nt	nt	nt	nt
16L4MW440W (field duplicate of 16L4MW07BW)	9/20/2007	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	ND	ND	ND	ND	nt	1.9	nt	nt	nt	nt	nt	nt
RPD for duplicate 16L4MW440W																										10%						
MS/MSD (lab duplicate of 16LCMW04DW)	9/19/2007	Lacamas Cr.	0.056(J)	0.183(J)	ND	ND	2.72(J)	ND	ND	ND	1.70	0.237J)	ND	ND	4.42(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	< 1	56	< 8.0	sulfate as SO4 1.5 mg/L; chloride 1.6 mg/L; nitrate as N 0.18 mg/L
16LCMW435W (field duplicate of 16LCMW01SW)	9/17/2007	Lacamas Cr.	ND	0.232(J)	ND	ND	ND	1.08(J)	ND	0.033(J)	0.913(J)	0.122(J)	ND	ND	1.80(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	2	48	< 8.0	chloride 1.3 mg/L
RPD for duplicate 16LCMW435W				6%				9%		19%	26%				0%															0%		
16L4MW430W (field equipment rinsate)	9/20/2007	Landfill 4	ND	ND	ND	ND	0.291(J)	ND	ND	ND	0.170(J)	ND	ND	ND	ND	Detect: see VOC table	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	6.0	< 2	< 2.0	none above detection limits
Trip Blank 1	9/17/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 2	9/19/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 3	9/20/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 4	9/21/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Trip Blank 5	9/24/2007		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
Lab detection limit			0.056	0.10	0.043	0.094	0.12	0.52	0.075	0.02	0.11	0.11	0.085	0.044	1.80	varies	varies	0.10 mg/L	0.40 mg/L	0.025 mg/L	0.48-0.60 µg/L	0.48-0.60 µg/L	2.4 µg/L	1.1 µg/L	1.0 µg/L	1.4 µg/L	1.0 mg/L	1.0 mg/L	2.0 mg/L	4 mg/L	2 - 4 mg/L	see lab data report for limits
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table
J or E = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
BOLD Print indicates concentration exceeding WA MTCA Method A Cleanup Level

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TABLE 5. DISSOLVED METALS AND DOC - 3rd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
16LCMW01SW	9/17/2007	Lacamas Cr.	0.086(J)	0.191(J)	ND	ND	ND	ND	ND	0.030(J)	0.693(J)	ND	ND	ND	1.96(J)	< 1.0
16LCMW01DW	9/17/2007	Lacamas Cr.	ND	0.270(J)	ND	ND	0.995(J)	ND	0.087(J)	0.025(J)	1.25	ND	ND	ND	1.85(J)	< 1.0
16LCMW02SW	9/17/2007	Lacamas Cr.	ND	0.383(J)	ND	ND	ND	ND	ND	0.026(J)	1.11	ND	ND	ND	2.34(j)	< 1.0
16LCMW02DW	9/17/2007	Lacamas Cr.	ND	0.441(J)	ND	ND	0.641(J)	0.983(J)	ND	0.033(J)	1.47	ND	ND	ND	2.32(J)	< 1.0
16LCMW03SW	9/19/2007	Lacamas Cr.	0.146(J)	0.388(J)	ND	ND	2.08(J)	ND	ND	ND	1.76	0.299(J)	ND	ND	5.90(J)	< 1.0
16LCMW03DW	9/19/2007	Lacamas Cr.	ND	0.693(J)	ND	ND	1.16(J)	ND	ND	ND	1.60	0.215(J)	ND	ND	5.30(J)	< 1.0
16LCMW04SW	9/19/2007	Lacamas Cr.	ND	0.122(J)	ND	0.437(J)	1.56(J)	ND	ND	ND	1.29	0.321(J)	ND	ND	2.60(J)	< 1.0
16LCMW04DW	9/19/2007	Lacamas Cr.	ND	1.10	ND	0.237(J)	2.23(J)	0.669(J)	ND	ND	2.66	0.313(J)	ND	ND	2.78(J)	< 1.0
MS/MSD (lab duplicate of 16LCMW04DW)	9/19/2007	Lacamas Cr.	ND	1.06	ND	0.163(J)	2.06(J)	ND	ND	ND	2.57	0.246(J)	ND	ND	3.02(J)	< 1.0
16LCMW435W (field duplicate of 16LCMW01SW)	9/17/2007	Lacamas Cr.	0.125(J)	0.183(J)	ND	ND	0.352(J)	0.677(J)	ND	0.036(J)	0.656(J)	0.125(J)	ND	ND	1.85(J)	< 1.0
RPD for duplicate 16LCMW01SW			37%	4%						18%	6%				6%	
16L4MW430W (field equipment rinsate)	9/20/2007	Landfill 4	ND	ND	ND	ND	0.278(J)	ND	ND	ND	0.608(J)	0.266(J)	ND	ND	7.51(J)	< 1.0
Lab detection limit			0.056	0.10	0.043	0.094	0.12	0.52	0.075	0.02	0.11	0.11	0.085	0.044	1.80	1.0
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
ug/L - micrograms per liter
J or E = value estimated
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

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TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
3rd QUARTER 2007
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/l)											SVOCs (µg/l)	
			Acetone	2-Butanone	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene	Dichlorodifluoromethane	Methylene Chloride	Trichloroethane	1,1,1-Trichloroethane	Tetrachloroethene	1,1,2,2-Tetrachloroethane	Benzoic Acid	bis(2-Ethylhexyl)phthalate
16L4MW03BW	9/21/2007	Landfill 4	1.7(J)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	nt	nt
16L4MW02BW	9/24/2007	Landfill 4	ND	ND	ND	28	ND	74	ND	0.22(J)	45	0.53(J)	ND	nt	nt
16L4MW05AW	9/21/2007	Landfill 4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.41(J)	ND	nt	nt
16LCMW02DW	9/17/2007	Lacamas Cr.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8(J)	ND
16L4MW430W (field equipment rinsate)	9/20/2007	Landfill 4	ND	ND	6.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab detection limit			5.0	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	0.6
WA MTCA Method A Cleanup Levels (µg/L)			n/a	n/a	n/a	n/a	n/a	n/a	5	n/a	200	5	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
nt - Sample not tested
ND - Not detected to the limit of laboratory detection indicated
µg/L - micrograms per liter
J = value estimated
B = also detected in the method blank associated with the sample
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate

TABLE 7
FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 3rd QUARTER 2007
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

			Field Parameters at Time of Sampling									
Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp. (degrees C)	Conductivity (µS/cm)	Oxidation Reduction Potential (millivolts)	Turbidity (NTUs)	pH	Dissolved Oxygen (mg/L)	Color and Cloudiness	Notes
16LCMW01SW	9/17/2007	1110	6.36	283.80	13.2	85	23.9	1.79	6.52	63.7	clear	collected duplicate
16LCMW01DW	9/17/2007	1300	6.83	283.42	12.9	90	24	2.45	6.58	71.00	clear	
16LCMW02SW	9/17/2007	1445	7.61	283.58	14.2	86	23	1.39	6.51	7.56	clear	
16LCMW02DW	9/17/2007	1630	8.16	283.43	13.2	90	2.2	2.20	6.56	7.19	clear	
16LCMW03SW	9/19/2007	1640	7.32	283.59	14.3	85	20.1	nr	6.43	7.63	clear	
16LCMW03DW	9/19/2007	1515	7.29	283.69	14.1	92	41.2	2.30	6.46	7.61	clear	
16LCMW04SW	9/19/2007	1015	7.36	284.27	13.4	86	90.2	4.22	5.93	6.70	clear	
16LCMW04DW	9/19/2007	1200	7.80	283.99	12.8	102	28.9	2.25	6.67	7.54	clear	collected MS/MSD duplicate
16L4MW01AW	9/20/2007	1400	17.53	513.87	14.8	28	121.7	9.41	5.13	6.89	clear	
16L4MW01BW	9/20/2007	1530	14.77	514.80	12.7	26	104.8	7.02	5.27	9.39	clear	
16L4MW02AW	9/24/2007	1200	29.53	490.40	16.1	24	103.4	26.5	4.93	7.21	clear	
16L4MW02BW	9/24/2007	1045	34.60	483.86	14.1	50	-17.5	2.64	5.56	0.94	clear	
16L4MW03AW	9/21/2007	1110	31.04	483.81	14.8	22	147.2	5.56	5.08	7.21	clear	
16L4MW03BW	9/21/2007	1300	28.92	482.55	13.9	43	146.1	4.60	5.42	6.26	clear	
16L4MW04AW	9/21/2007	0945	28.84	482.95	13.2	18	121.3	4.27	5.11	6.38	clear	
16L4MW05AW	9/21/2007	1415	25.69	484.22	14.5	28	128.7	18.56	5.21	6.37	clear	
16L4MW07BW	9/20/2007	1215	40.88	439.54	13.1	33	112.0	8.85	5.39	6.99	clear	collected duplicate
16L4MW17W	9/20/2007	0950	11.23	350.25	15.4	228	-21.5	5.01	7.08	3.99	clear	
16L4MW18W	9/20/2007	1050	12.12	350.72	13.5	124	66.9	26.3	6.13	8.49	clear	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of casing elevation survey (see elevations, Table 8)
nr = value not recorded
Field parameters of temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and pH measured with a YSI Model 556 meter.
Turbidity measured with Oaktron T100 meter.

TABLE 8
WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Total Depth (ft)*	Screened Interval (ft)**	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.73	15-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.20	30-40	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.50	12.5-17.5	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.85	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.10	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.40	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.54	7-17	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.00	25-35	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.40	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.60	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.90	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	62.90	49-59	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	43.40	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.60	30-35	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.60	46-56	480.42	L4-MW07B
L4-MW17	ALB-252	Landfill 4	15.00	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	20.00	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing
** = screened interval reported on well completion logs
N/A = not available

TABLE 4. CONSTITUENTS DETECTED IN GROUNDWATER SAMPLES - 1st QUARTER 2008
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Total Metals (µg/L)													VOCs (µg/L)	SVOCs (µg/L)	Petroleum Hydrocarbons (mg/L)			Ordnance Explosives Compounds (µg/L)		NG (µg/L)	PETN (µg/L)	Picric Acid (µg/L)	Perchlorate (µg/L)	TOC (mg/L)	DOC (mg/L)	TSS (mg/L)	Alkalinity (HCO3) (mg/L)	Alkalinity (CO3) (mg/L)	Ions (results above detection limits shown)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc			NWTPH-Dx	Oil Range	NWTPH-Gx	HMX	RDX										
18LCMW01DW	3/19/2008	Lacamas Cr.	0.113 J	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	0.038 J	0.96 J	ND	ND	<0.0762	<0.476	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.587 J	<10	47.6	<5.00	nitrate 0.131 mg/L sulfate 1.02 mg/L; chloride 1.46 mg/L
18LCMW01SW	3/17/2008	Lacamas Cr.	< 1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	0.51 J	ND	Detect: see VOC/SVOC table	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.59 J	<10	45.9	<5.0	nitrate as N 0.14 mg/L; sulfate 0.60J mg/L; chloride 1.52 mg/L
18LCMW02DW	3/18/2008	Lacamas Cr.	< 1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	ND	Detect: see VOC/SVOC table	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.414 J	<10	47	<5.0	chloride: 1.88 mg/L sulfate 1.09 mg/L
18LCMW02SW	3/18/2008	Lacamas Cr.	< 1.0	<1.0	<1.0	<1.0	0.19 J	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	ND	ND	<0.0762	<0.476	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.423 J	<10	47	<5.0	chloride: 1.83 mg/L sulfate 0.58 mg/L
18LCMW460W (duplicate to LCMW02SW)	3/18/2008	Lacamas Cr.	< 1.0	<1.0	<1.0	<1.0	0.20 J	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	ND	ND	<0.0762	<0.476	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.434 J	<10	46.8	<5.0	chloride: 1.83 mg/L sulfate 0.53 mg/L
RPD for duplicate							5.13%																					2.57%		0.43%		Chloride: 0% sulfate: 9%
18LCMW03DW	3/17/2008	Lacamas Cr.	< 1.0	0.69 J	< 1.0	< 1.0	0.17 J	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	0.49 J	ND	Detect: see VOC/SVOC table	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	0.352 J	0.468 J	<10	48.5	<5.0	nitrate as N 0.41 mg/L; sulfate 0.89J mg/L; chloride 1.68 mg/L
18LCMW03SW	3/17/2008	Lacamas Cr.	0.12 J	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	ND	ND	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	<1.00	0.446 J	<10	45.5	<5.0	nitrate as N 0.33 mg/L; chloride 1.59 mg/L
18LCMW04DW	3/17/2008	Lacamas Cr.	< 1.0	1.13	< 1.0	< 1.0	0.29 J	<2.0	<1.0	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	Detect: see VOC table	ND	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	0.492 J	0.536 J	<10	51.9	<5.0	nitrate as N 0.21 mg/L; sulfate 1.63 mg/L; chloride 1.64 mg/L
18LCMW04SW	3/17/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	< 1.0	0.3 J	<2.0	0.06 J	<2.0	<2.0	<2.0	<1.0	<1.0	<5.0	Detect: see VOC table	ND	<0.0755	<0.472	<0.08	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	0.949 J	0.586 J	<10	40.7	<5.0	nitrate as N 1.04 mg/L; sulfate 0.44J mg/L; chloride 2.44 mg/L
18L4MW01AW	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	<0.4	0.22	<3.0	<2.0	<0.4 R	6.2	nt	nt	nt	nt	nt	nt
18L4MW01BW	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	<0.4	<0.20	<3.0	<2.0	<0.4 R	<1.0	nt	nt	nt	nt	nt	nt
18L4MW02AW	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	2.8	18	<3.0	<2.0	<0.4 R	140 Q	nt	nt	nt	nt	nt	nt
18L4MW02BW	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	3.3	69	<15	<2.0	<0.4 R	280Q	nt	nt	nt	nt	nt	nt
18L4MW03AW	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	0.33 J	9.6	<3.0	<2.0	<0.4 R	84 Q	nt	nt	nt	nt	nt	nt
18L4MW03BW	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	<0.4	3.6	<3.0	<2.0	<0.4 R	41 Q	nt	nt	nt	nt	nt	nt
18L4MW04AW	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	<0.4	2	<3.0	<2.0	<0.4 R	29	nt	nt	nt	nt	nt	nt
18L4MW05AW	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	0.2 J	3.5	<3.0	<2.0	<0.4 R	36	nt	nt	nt	nt	nt	nt
18L4MW465W (duplicate of L4MW05A)	3/20/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	0.23 J	3.2	<3.0	<2.0	<0.4 R	36	nt	nt	nt	nt	nt	nt
RPD for duplicate																					13.95%	8.96%				0%						
18L4MW07BW	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	<0.4	<0.2	<3.0	<2.0	<0.4 R	2.5	nt	nt	nt	nt	nt	nt
18L4MW17W	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	Detect: see VOC table	nt	nt	nt	nt	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	nt	nt	nt	nt	nt	nt
18L4MW18W	3/19/2008	Landfill 4	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	ND	nt	nt	nt	nt	<0.4	<0.2	<3.0	<2.0	<0.4 R	<1.0	nt	nt	nt	nt	nt	nt
Equipment Blank	3/21/2008		nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.0	nt	nt	nt	nt	nt	Only tested perchlorate since other tests collected through dedicated pumps
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	varies	varies	500	500	1,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800																	

Notes:
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
nt - Sample not tested
µg/L - micrograms per liter
mg/L - milligrams per liter

Q = elevated reporting limit due to high analyte levels
ND - Not detected to the limit of laboratory detection indicated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
Detect - VOC compound detected; see separate VOC table

J = value estimated
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.
R = Rejected data. See report for discussion.

TABLE 5. DISSOLVED METALS AND DISSOLVED ORGANIC CARBON - 1st QUARTER 2008
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	Dissolved Metals - field filtered (µg/L)													DOC (mg/L)
			Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc	
18LCMW01DW	3/19/2008	Lacamas Cr.	0.467 J	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	< 1.0	1.21 J	0.587 J
18LCMW01SW	3/17/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.027 J	0.979 J	< 1.0
18LCMW02DW	3/18/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.023 J	1.24 J	< 1.0
18LCMW02SW	3/18/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	0.116 J	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.02 J	0.69 J	< 1.0
18LCMW460W (duplicate for LCMW02S)	3/18/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.019 J	0.521 J	< 1.0
RPD for duplicate			-	-	-	158%	-	-	-	-	-	-	-	5.13%	28%	-
18LCMW03DW	3/17/2008	Lacamas Cr.	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.021 J	0.853 J	< 1.0
18LCMW03SW	3/17/2008	Lacamas Cr.	0.131 J	< 1.0	< 1.0	0.184 J	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	0.07 J	1.17 J	< 1.0
18LCMW04DW	3/17/2008	Lacamas Cr.	0.108 J	0.8 J	< 1.0	0.091 J	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	< 1.0	1.44 J	< 1.0
18LCMW04SW	3/17/2008	Lacamas Cr.	<1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 0.2	< 2.0	< 2.0	< 1.0	< 1.0	1.24 J	< 1.0
Lab reporting limit			1.00	1.00	1.00	1.00	1.00	2.00	1.00	0.20	2.00	2.00	1.00	1.00	5.00	1.00
WA MTCA Method A Cleanup Levels (µg/L)			n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels (µg/L)			1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800	

BOLD print indicates concentration exceeding WA MTCA Method A Cleanup Level
Only detected analytes are shown; see laboratory reports for complete listing of compounds tested
ug/L - micrograms per liter
J = estimated value; analyte detected less than the MRL and above the method detection limit (MDL).
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
WA MTCA Method B Levels from "Multi-Sites Investigation Report", Shannon & Wilson, 1999.

TABLE 6. VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS - 1st Quarter 2008
SUMMARY OF GROUNDWATER LABORATORY ANALYSIS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Sample Date	Sample Location	VOCs (µg/l)															SVOCs (µg/l)
			Benzene	Bromomethane	Carbon Disulfide	Chloromethane	cis-1,2-Dichloroethene	1,1-Dichloroethane	Dichlorodifluoromethane	1,1-Dichloroethene	Methylene chloride	trans-1,2-dichloroethene	Trichloroethene	1,1,1-Trichloroethane	Tetrachloroethene	Toluene	1,1,2-trichloroethane	Trichlorofluoromethane	bis(2-Ethylhexyl)phthalate
18LCMW01SW	3/17/2008	Lacamas Cr.	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12.6
18LCMW02DW	3/18/2008	Lacamas Cr.	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	19.5
18LCMW03DW	3/17/2008	Lacamas Cr.	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9.59
18LCMW04SW	3/17/2008	Lacamas Cr.	<1.0	1.41 JB	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<9.52
18LCMW04DW	3/17/2008	Lacamas Cr.	<1.0	1.39 JB	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<9.52
18L4MW01AW	3/19/2008	Landfill 4	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.11 J	<1.0	<1.0	NT
18L4MW02BW	3/20/2008	Landfill 4	0.18J	<5.0	0.39 JB	<5.0	<1.0	23.9	34.4	9.65	<5.0	0.13 J	0.26 J	35	0.55 J	0.16J	0.13 J	0.32 J	NT
18L4MW02AW	3/20/2008	Landfill 4	<1.0	<5.0	0.34 JB	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT
18L4MW03AW	3/20/2008	Landfill 4	<1.0	<5.0	0.41 JB	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.30 J	<1.0	<1.0	NT
18L4MW03BW	3/20/2008	Landfill 4	<1.0	<5.0	0.30 JB	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.27J	<1.0	<1.0	NT
18L4MW04AW	3/19/2008	Landfill 4	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.34 J	<1.0	<1.0	NT
18L4MW05AW	3/20/2008	Landfill 4	<2.0	<10.0	0.60 JB	<10.0	0.40J	<2.0	<10.0	<2.0	2.42 JB	<2.0	<2.0	<2.0	1.18 J	<2.0	<2.0	<2.0	NT
18L4MW465W (duplicate of L4MW05A)	3/20/2008	Landfill 4	<1.0	<5.0	0.25JB	<5.0	<1.0	<1.0	<5.0	<1.0	0.53 JB	<1.0	<1.0	<1.0	0.54J	<1.0	<1.0	<1.0	NT
18L4MW07BW	3/19/2008	Landfill 4	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.38 J	<1.0	<1.0	NT
18L4MW17W	3/19/2008	Landfill 4	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	0.46J	<1.0	<1.0	NT
TB 219	3/17/2008	Lacamas Cr.	<1.0	<5.0	<10.0	0.13 JB	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT
TB218	3/18/2008	Lacamas Cr.	<1.0	1.52 JB	<10.0	0.18 JB	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT
TB219	3/19/2008	Landfill 4	<1.0	<5.0	<10.0	<5.0	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT
TB219	3/20/2008	Landfill 4	<1.0	<5.0	0.34 JB	<5.0	<1.0	<1.0	<5.0	<1.0	0.53 JB	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT
RPD for duplicate					82.35%		85.71%				128.14%				74.42%				
WA MTCA Method A Cleanup Levels (µg/L)			5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5	n/a	5	200	5	1000	n/a	n/a	n/a

Note:
Only analytes detected in at least one sample are shown; see lab reports for complete listing of compounds tested.
NT - Sample not tested
µg/L - micrograms per liter
J = value estimated
n/a - Not applicable. MTCA Method A Cleanup Level not provided.
RPD = relative percent difference between sample versus duplicate
B = analyte found in the laboratory blank

TABLE 7. FIELD PARAMETERS FOR GROUNDWATER SAMPLES - 1st QUARTER 2008
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Sample No.	Date	Time	Depth to Water in Feet*	Water Elevation in Feet amsl **	Temp. (degrees C)	Conductivity (µS/cm)	Oxidation Reduction Potential (millivolts)	Turbidity (NTUs)	pH	Dissolved Oxygen (mg/L)	Notes
18LCMW01DW	3/19/2008	17:10	4.43	285.82	10.2	96	210.3	0.54	6.67	8.03	
18LCMW01SW	3/17/2008	16:50	4.13	286.03	9.41	90	214.2	0.89	6.43	8.1	
18LCMW02DW	3/18/2008	11:30	4.91	286.68	10.92	99	-149.2	7.38	7.85	8.27	
18LCMW02SW	3/18/2008	9:35	4.31	286.88	10	96	-160.2	0.23	8.03	7.54	Duplicate
18LCMW03DW	3/17/2008	13:40	4.14	286.84	10.3	100	211.1	nr	6.35	8.22	MS/MSD
18LCMW03SW	3/17/2008	15:30	4.10	286.81	9.84	92	210.7	0.08	6.33	8.34	
18LCMW04DW	3/17/2008	12:15	4.58	287.21	9.19	107	210.6	3.65	6.53	8.84	
18LCMW04SW	3/17/2008	10:30	4.01	287.62	8.71	93	245.9	1.69	5.5	7.74	
18L4MW01AW	3/19/2008	13:30	14.28	517.12	10.81	30	195.7	nr	5.63	7.84	
18L4MW01BW	3/19/2008	14:30	10.56	519.01	10.13	26	229.6	1.3	5.91	10	
18L4MW02AW	3/20/2008	14:45	24.37	495.56	10.55	44	295.9	0.42	4.53	8.63	
18L4MW02BW	3/20/2008	16:45	34.46	484.00	9.8	39	20.6	0.33	5.31	1.4	
18L4MW03AW	3/20/2008	13:00	29.69	485.16	10.22	23	265.1	1.38	4.86	8.33	
18L4MW03BW	3/20/2008	11:30	25.37	486.10	9.82	49	247.5	5.65	5.39	6.71	
18L4MW04AW	3/19/2008	15:40	25.90	485.89	9.75	18	286.5	4.11	4.96	7.53	
18L4MW05AW	3/20/2008	9:45	22.60	487.31	9.16	29	240.9	0.42	4.95	7.36	Duplicate
18L4MW07BW	3/19/2008	12:30	38.17	442.63	9.25	35	175.7	0.11	6.23	7.12	
18L4MW17W	3/19/2008	10:20	9.33	352.15	8.79	264	4.6	1.81	7.82	3.48	
18L4MW18W	3/19/2008	11:35	10.45	352.39	9.93	137	109.2	2.2	7.05	8.77	

Notes:
* = depth in feet measured from top of well PVC casing.
** = water level in feet above mean sea level, relative to top of PVC casing elevation survey (see elevations, Table 8)
nr = value not recorded
Field parameters of temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and pH measured with a YSI Model 556 meter.
Turbidity measured with HF Scientific TPW Meter

TABLE 8. WELL NUMBER AND CONSTRUCTION DETAILS
CAMP BONNEVILLE, VANCOUVER, WASHINGTON

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.80	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 4
Constituents Detected in Groundwater
2nd Quarter 2008
Camp Bonneville, Vancouver, Washington

				TPH (mg/L)			Explosives (ug/L)					General Chemistry				
Sample ID	Sample Date	Location	Perchlorate (ug/L)	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	HMX (ug/L)	RDX (ug/L)	Nitroglycerin (ug/L)	PETN (ug/L)	Picric Acid (ug/L)	Total Organic Carbon (mg/L)	Dissolved Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Alkalinity, Bicarbonate (As CaCO3) mg/L	Alkalinity, Carbonate (As CaCO3) mg/L
19L4MW01AW	06/25/2008	Landfill 4	2	NT	NT	NT	< 0.4	0.12	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW01BW	06/25/2008	Landfill 4	0.59 J	NT	NT	NT	< 0.4	< 0.2	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW02AW	06/25/2008	Landfill 4	160	NT	NT	NT	3.4	20	< 3	< 2	0.13	NT	NT	NT	NT	NT
19L4MW02BW	06/26/2008	Landfill 4	390	NT	NT	NT	4.1	85	< 15	< 10	2.9	NT	NT	NT	NT	NT
19L4MW03AW	06/25/2008	Landfill 4	86	NT	NT	NT	0.47	11	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW465W Duplicate for L4MW03A	06/25/2008	Landfill 4	86	NT	NT	NT	0.4	11	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
RPD for duplicate			**0%**				**16.09195**	**0%**	**0%**	**0%**	**0%**					
19L4MW03BW	06/25/2008	Landfill 4	39	NT	NT	NT	< 0.4	5	< 3	< 2	0.14	NT	NT	NT	NT	NT
19L4MW04AW	06/26/2008	Landfill 4	30	NT	NT	NT	< 0.4	2.4	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW05AW	06/25/2008	Landfill 4	37	NT	NT	NT	0.32 J	3.8	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW07BW	06/25/2008	Landfill 4	2.3	NT	NT	NT	< 0.4	< 0.2	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW17W	06/24/2008	Landfill 4	< 1	NT	NT	NT	< 0.4	< 0.2	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19L4MW18W	06/24/2008	Landfill 4	< 1	NT	NT	NT	< 0.4	< 0.2	< 3	< 2	< 0.4	NT	NT	NT	NT	NT
19LCMW01SW	06/23/2008	Lacamas Creek	< 1	< 80.0	< 0.0769	< 0.481	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	46.1	< 5.00
19LCMW01DW	06/23/2008	Lacamas Creek	< 1	< 80.0	< 0.0769	< 0.481	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	47.7	< 5.00
19LCMW02SW	06/23/2008	Lacamas Creek	< 1	< 80.0	< 0.0762	< 0.476	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	44.7	< 5.00
19LCMW02DW	06/23/2008	Lacamas Creek	< 1	< 80.0	< 0.0769	< 0.481	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	47	< 5.00
19LCMW03SW	06/24/2008	Lacamas Creek	< 1	< 80.0	< 0.0762	< 0.476	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	44.6	< 5.00
19LCMW460W duplicate of LCMW-3S	06/24/2008	Lacamas Creek	< 1	< 80.0	< 0.0762	< 0.476	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	44.6	< 5.00
RPD for duplicate			**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
19LCMW03DW	06/23/2008	Lacamas Creek	< 1	< 80.0	< 0.0762	< 0.476	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	48.9	< 5.00
19LCMW04SW	06/24/2008	Lacamas Creek	< 1	< 80.0	< 0.0777	< 0.485	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	< 1.00	41.8	< 5.00
19LCMW04DW	06/24/2008	Lacamas Creek	< 1	< 80.0	< 0.0762	< 0.476	< 0.4	< 0.2	< 3	< 2	< 0.4	< 1.0	< 1.0	1	52	< 5.00
WA MTCA Method A Cleanup Levels			n/a	1,000	500	500	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels																

Table 4
Constituents Detected in Groundwater
2nd Quarter 2008
Camp Bonneville, Vancouver, Washington

			Anions/Cations				METALS (mg/L)												
Sample ID	Sample Date	Location	Sulfate (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
19L4MW01AW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW01BW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW02AW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW02BW	06/26/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW03AW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW465W Duplicate for L4MW03A	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RPD for duplicate																			
19L4MW03BW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW04AW	06/26/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW05AW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW07BW	06/25/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW17W	06/24/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19L4MW18W	06/24/2008	Landfill 4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
19LCMW01SW	06/23/2008	Lacamas Creek	0.56	1.26	< 0.0100	0.101	< 1.00	0.24 J	< 0.500	< 0.500	< 2.00	1.26 J	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	1.37 J
19LCMW01DW	06/23/2008	Lacamas Creek	0.9	1.37	< 0.0100	0.138	< 1.00	0.4 J	< 0.500	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.17J	< 0.500	< 1.00	< 1.00	0.87 J
19LCMW02SW	06/23/2008	Lacamas Creek	1.7	1.43	< 0.0100	0.345	< 1.00	0.47 J	< 0.500	< 0.500	< 2.00	5.01	< 1.00	< 0.200	0.2 J	< 0.500	< 1.00	< 1.00	2.35 J
19LCMW02DW	06/23/2008	Lacamas Creek	0.92	1.88	< 0.0100	0.488	< 1.00	0.49 J	< 0.500	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.27 J	< 0.500	< 1.00	< 1.00	0.71 J
19LCMW03SW	06/24/2008	Lacamas Creek	0.45	1.34	< 0.0100	0.271	< 1.00	< 1.00	< 0.500	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	1.03 J
19LCMW460W duplicate of LCMW-3S	06/24/2008	Lacamas Creek	0.42	1.36	< 0.0100	0.298	< 1.00	< 1.00	< 0.500	< 0.500	0.42 J	< 2.00	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	1.04 J
RPD for duplicate			**6.90%**	**1.48%**	**0.00%**	**9.49%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.97%**
19LCMW03DW	06/23/2008	Lacamas Creek	< 1.00	1.5	< 0.0100	0.339	< 1.00	0.71 J	< 0.500	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.15 J	< 0.500	< 1.00	< 1.00	< 5.00
19LCMW04SW	06/24/2008	Lacamas Creek	0.38	2.66	< 0.0100	1.1	< 1.00	< 1.00	< 5.00	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	1.06 J
19LCMW04DW	06/24/2008	Lacamas Creek	1.35	2	< 0.0100	0.19	< 1.00	0.533 J	< 0.500	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.163 J	< 0.500	< 1.00	< 1.00	1.41 J
WA MTCA Method A Cleanup Levels			n/a	n/a	n/a	n/a	n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels							1.4 - 8		0.02			592		4,800	320	80	80	1.1	4,800

NOTES:
J = estimated. Values reported are above the method detection limit but below the method reporting limit.
NT = not tested
n/a = not applicable
< 5.00 = not detected above the indicated method detection limit.
mg/L = milligrams per liter
ug/L = micrograms per liter
RPD = relative percent different
WA MTCA Method B Levels from "Multi-Sites Investigation Report" from Shannon & Wilson, 1999.

Table 5
Dissolved Metals
2nd Quarter 2008
Camp Bonneville, Vancouver, Washington

		Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Sample ID	**Sample Date**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
19LCMW01SW	06/23/2008	<1.0	<1.0	<0.5	0.18 J	< 2.00	< 2.00	< 1.00	< 0.200	0.263 J	< 0.500	< 1.00	< 1.00	4.04 J
19LCMW01DW	06/23/2008	<1.0	<1.0	<0.5	0.065 J	< 2.00	< 2.00	< 1.00	< 0.200	0.18 J	< 0.500	< 1.00	< 1.00	1.5 J
19LCMW02SW	06/23/2008	<1.0	0.189 J	<0.5	0.099 J	< 2.00	0.668 J	< 1.00	< 0.200	0.46 J	< 0.500	< 1.00	< 1.00	9.7 J
19LCMW02DW	06/23/2008	<1.0	<1.0	<0.5	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.219 J	< 0.500	< 1.00	< 1.00	1.43 J
19LCMW03SW	06/24/2008	<1.0	<1.0	<0.5	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	0.947 J
19LCMW460W duplicate of LCMW03S	06/24/2008	<1.0	<1.0	<0.5	0.239 J	< 2.00	< 2.00	< 1.00	< 0.200	0.478 J	< 0.500	< 1.00	< 1.00	1.26 J
RPD														
19LCMW03DW	06/23/2008	<1.0	0.394 J	<0.5	0.11 J	< 2.00	< 2.00	< 1.00	< 0.200	0.535 J	< 0.500	< 1.00	< 1.00	1.09 J
19LCMW04SW	06/24/2008	<1.0	<1.0	<0.5	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	0.447 J	< 0.500	< 1.00	< 1.00	0.904 J
19LCMW04DW	06/24/2008	<1.0	0.628 J	<0.5	< 0.500	< 2.00	< 2.00	< 1.00	< 0.200	< 1.00	< 0.500	< 1.00	< 1.00	1.57 J
WA MTCA Method A Cleanup Levels		n/a	5	n/a	5	50	n/a	15	2	n/a	n/a	n/a	n/a	n/a
WA MTCA Method B Levels		1.4 - 8	n/a	0.02	n/a	n/a	592	n/a	4,800	320	80	80	1.1	4,800

NOTES:
n/a = not applicable
<0.5 = not detected above the method detection limit indicated.
ug/L = microgram per liter
J = estimated. Values reported are above the method detection limit but below the method reporting limit.

Table 6
Volatile Organic Compounds Detected in Groundwater
2nd Quarter 2008
Camp Bonneville, Vancouver, Washington

		VOCs (ug/L)												
Sample ID	Sample Date	1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	Dichlorodifluoromethane	Isopropylbenzene	Methylene Chloride	Naphthalene	n-Propylbenzene	Tetrachloroethene	Trichloroethene	Trichlorofluoromethane	Freon 113*
19L4MW02BW	06/26/2008	**29.7**	**23.2**	**9.36**	<2.00	**26.1**	**0.2 J**	**2.58 J**	<4.00	**0.2 J**	**0.46 J**	**0.26 J**	**0.22 J**	**59.1**
19L4MW04AW	06/26/2008	<1.00	<1.00	<1.00	<1.00	<5.00	<2.00	**0.17 J**	<2.00	<1.00	<1.00	<1.00	<1.00	ND
19L4MW05AW	06/25/2008	<1.00	<1.00	<1.00	<1.00	<5.00	<2.00	<5.00	<2.00	<1.00	**0.39 J**	<1.00	<1.00	ND
19L4MW17W	06/24/2008	<1.00	<1.00	<1.00	**0.12 J**	<5.0	<2.00	<5.00	**0.35 J**	<1.00	<1.00	<1.00	<1.00	ND
TB229_062508	06/25/2008	<1.00	<1.00	<1.00	<1.00	<5.00	<2.00	**0.18 J**	<2.00	<1.00	<1.00	<1.00	<1.00	ND
TB229_062608	06/26/2008	<1.00	<1.00	<1.00	<1.00	<5.00	<2.00	<5.00	<2.00	<1.00	<1.00	<1.00	<1.00	ND
MTCA Method A Cleanup Levels		200	n/a	n/a	n/a	1600	n/a	5	160	n/a	5	5	n/a	n/a
MTCA Method B Standard Values			800	400	n/a	1600	n/a			n/a			2400	n/a

* detected as a tentatively identified compound.
ND = not detected
<1.00 = not detected above the method reporting limit indicated.
J = result is estimated. Value falls above the method detection limit but below the method reporting limit.
n/a = not available
Limited to VOC compounds that were detected. Review laboratory reports for complete results. No SVOCs detected in any samples.

Table 7
Field Parameters for Groundwater Samples
2nd Quarter 2008
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Oxydation Reduction Potential	pH	Dissolved Oxygen	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	Millivolts	S.U.	mg/l	NTU
19L4MW01AW	06/25/2008	16.58	514.82	10.21	35	61.5	5.34	8.05	0
19L4MW01BW	06/25/2008	13.33	516.24	10.15	27	64.4	5.43	10.51	0
19L4MW02AW	06/25/2008	26.84	493.09	10.97	46	76.7	4.97	8.8	0
19L4MW02BW	06/26/2008	32.14	486.32	11.12	63	-5.6	5.9	1.03	0
19L4MW03AW	06/25/2008	30.00	484.85	11.66	23	69.3	4.38	8.28	3.3
19L4MW03BW	06/25/2008	27.06	484.41	13.07	51	33.7	5.84	7.13	5.31
19L4MW04AW	06/26/2008	27.73	484.06	10.98	19	108	4.99	7.69	13.55
19L4MW05AW	06/25/2008	24.18	485.73	10.14	29	41.8	5.5	7.26	0
19L4MW07BW	06/25/2008	39.67	441.13	9.71	35	63.9	5.49	7.38	0
19L4MW17W	06/24/2008	10.63	350.85	11.67	264	-25.4	7.59	3.46	0.67
19L4MW18W	06/24/2008	12.66	350.18	10.46	146	14.4	6.53	8.64	0.06
19LCMW01SW	06/23/2008	5.38	284.78	10.51	87	-3.8	6.84	7.24	0
19LCMW01DW	06/23/2008	5.61	284.64	11.15	91	-5.9	6.98	7.72	0
19LCMW02SW	06/23/2008	6.23	284.96	10.42	87	-2.5	6.67	8.17	0
19LCMW02DW	06/23/2008	6.67	284.92	11.05	93	-9.2	6.93	8.05	0.01
19LCMW03SW	06/24/2008	5.70	285.21	10.45	101	-7.3	6.87	8.28	0
19LCMW03DW	06/23/2008	5.96	285.02	10.88	96	17	6.46	8.03	0.22
19LCMW04SW	06/24/2008	5.59	286.04	10.7	106	7.4	6.51	4.18	0
19LCMW04DW	06/24/2008	6.31	285.48	12.34	120	20.9	6.58	7.83	0.28

* depth in feet measured from top fo well PVC casing.
** water level in feet above mean sea level, relative to top of PVC casing elevation survey
Field parameters were measured using a YSI 556 and a flow through cell, with the exception of turbidity, which was measured using a HF Scientific TPW Meter.

Table 8
Well Number and Construction Details
Camp Bonneville, Vancouver, Washington

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.80	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 4
Constituents Detected in Groundwater
3rd Quarter 2008
Camp Bonneville, Vancouver, Washington

Analytes	MTCA Method A Level	LCMW01D 9/24/08	LCMW01S 9/24/08	LCMW02D 9/24/08	LCMW02S 9/24/08	LCMW03D 9/23/08	LCMW03S 9/23/08	LCMW04D 9/23/08	LCMW04S 9/23/08	LCMW04S (DUP) 9/23/08	RPD (< 20%)
Petroleum Hydrocarbons (mg/L)											
Gasoline Range Organics	1000	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	< 0.08 U	0%
Diesel Range Organics	500	< 0.0762 U	< 0.0755 U	< 0.0762 U	< 0.0755 U	< 0.0762 U	< 0.0755 U	< 0.0784 U	< 0.0769 U	< 0.0762 U	0%
Oil Range Organics	500	< 0.476 U	< 0.472 U	< 0.476 U	< 0.472 U	< 0.476 U	< 0.472 U	< 0.49 U	< 0.481 U	< 0.476 U	0%
Anions/Cations (mg/L)											
Chloride		1.43	1.36	1.86	1.49	1.55	1.43	1.55	2.43	2.43	0%
Nitrate/Nitrite-Nitrogen		0.134	0.115	0.206	0.137	0.291	0.28	0.18	0.899	0.92	2.31%
Nitrite (EPA 300.0)						< 0.1 U	< 0.1 U	< 0.1 U	0.92 J	< 0.1 UJ	160.78%
Nitrite (EPA 353.2)		< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 H3 R	< 0.01 H3 R	< 0.01 H3	< 0.01 H3 R	< 0.01 H3 R	
Sulfate		1.03	0.810 J	< 1 U	0.910 J	< 1 U	0.690 J	1.57	1.00 J	0.730 J	31.21%
Explosives (ug/L)											
HMX		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0%
RDX		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0%
Nitroglycerin		< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0%
PETN		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0%
Picric Acid		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	0%
Perchlorate		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0%
General Chemistry (mg/L)											
Dissolved Organic Carbon		0.393 J	0.582 J	< 1 U	0.363 J	< 1 U	< 1 U	0.452 J	< 1 U	< 1 U	0%
Total Organic Carbon		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0%
Total Suspended Solids		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.00	< 1 U	< 1 U	0%
pH		6.88	6.9	6.76	6.87	6.68	6.77	7.04	6.42	6.33	1.41%
Alkalinity, Bicarbonate (As CaCO3)		46.7	45.2	45.9	44.4	45.2	44.1	52.5	40.7	41.2	1.22%
Alkalinity, Carbonate (As CaCO3)		< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	0%
Total Alkalinity		46.7	45.2	45.9	44.4	45.2	44.1	52.5	40.7	41.2	1.22%

Table 4
Constituents Detected in Groundwater
3rd Quarter 2008
Camp Bonneville, Vancouver, Washington

Analytes	MTCA Method A Level	L4MW01A 9/25/08	L4MW01B 9/25/08	L4MW02A 9/25/08	L4MW02A (DUP) 9/25/08	RPD (< 20%)	L4MW02B 9/26/08	L4MW03A 9/26/08	L4MW03B 9/26/08	L4MW04A 9/25/08	L4MW05A 9/25/08	L4MW07B 9/25/08	L4MW017 9/24/08	L4MW018 9/24/08
Petroleum Hydrocarbons (mg/L)														
Gasoline Range Organics	1000													
Diesel Range Organics	500													
Oil Range Organics	500													
Anions/Cations (mg/L)														
Chloride														
Nitrate/Nitrite-Nitrogen														
Nitrite (EPA 300.0)														
Nitrite (EPA 353.2)														
Sulfate														
Explosives (ug/L)														
HMX		< 0.4	< 0.4	4.1	4.1	0%	4.2	0.37 J	< 0.4	< 0.4	0.25 J	< 0.4	< 0.4	< 0.4
RDX		< 0.2	< 0.2	24	24	0%	82	9.1	5	2.2	3.9	< 0.2	< 0.2	< 0.2
Nitroglycerin		< 3	< 3	< 3	< 3	0%	< 15	< 3	< 3	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	< 2	0%	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	0.047 J*	16.09%	0.9 J*	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate		1.6	0.32	240	250	4.08%	490	89	39	34	39	2.4	< 1	< 1
General Chemistry (mg/L)														
Dissolved Organic Carbon														
Total Organic Carbon														
Total Suspended Solids														
pH														
Alkalinity, Bicarbonate (As CaCO3)														
Alkalinity, Carbonate (As CaCO3)														
Total Alkalinity														

NOTES
* = More than 40% RPD between primary and confirmation detector results. The lower of the two results is reported.
< 5 U = not detected above the indicated method detection limit.
H3 = Sample was received and analyzed past holding time.
R = data is rejected because it was analyzed past hold time.
J = estimated. Value reported is below the method reporting limit but above the method detection limit.
mg/L = milligrams per liter
ug/L = micrograms per liter
RPD = relative percent different

Table 5
Total and Dissolved Metals
3rd Quarter 2008
Camp Bonneville, Vancouver, Washington

Analyte	MTCA Method A Levels	MTCA Method B Levels	LCMW01D 9/24/08	LCMW01S 9/24/08	LCMW02D 9/24/08	LCMW02S 9/24/08	LCMW03D 9/23/08	LCMW03S 9/23/08	LCMW04D 9/23/08	LCMW04S 9/23/08	LCMW04S(DUP) 9/23/08	RPD
Trace Metals (ug/L)												**(<20%)**
Antimony		1.4	< 1	< 1	< 1	0.199 J	< 1	< 1	< 1	< 1	< 1	0%
Arsenic	5		0.378 J	0.228 J	0.452 J	0.685 J	0.71 J	0.293 J	0.85 J	0.25 J	< 1	acceptable
Beryllium		**0.02**	< 0.5	< 0.5	< 0.5	**0.325 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.05 J**	acceptable
Cadmium	5		< 0.5	< 0.5	< 0.5	0.281 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0%
Chromium	50		< 2	< 2	< 2	0.402 J	< 2	< 2	< 2	< 2	< 2	0%
Copper		592	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0%
Lead	15		< 1	< 1	< 1	0.279 J	< 1	< 1	< 1	< 1	< 1	0%
Mercury	2	4800	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0%
Nickel		320	< 1	< 1	< 1	0.379 J	< 1	< 1	< 1	< 1	< 1	0%
Selenium		80	< 0.5	< 0.5	0.123 J	0.359 J	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0%
Silver		80	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0%
Thallium		1.1	< 1	< 1	< 1	0.349 J	< 1	0.108 J	0.293 J	0.134 J	< 1	acceptable
Zinc		4800	1.43 J	1.2 J	1.32 J	1.71 J	1.26 J	1.23 J	1.46 J	1.41 J	1.2 J	16.09%
Dissolved Trace Metals (ug/L)												
Antimony		1.4	< 1	0.16 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0%
Arsenic	5		0.28 J	0.33 J	0.5 J	0.45 J	0.81 J	0.38 J	1.11	0.19 J	0.21 J	10.00%
Beryllium		**0.02**	< 0.5	**0.12 J**	< 0.5	< 0.5	**0.1 J**	< 0.5	< 0.5	< 0.5	< 0.5	0%
Cadmium	5		< 0.5	0.11 J	< 0.5	< 0.5	< 0.5	0.15 J	< 0.5	< 0.5	< 0.5	0%
Chromium	50		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0%
Copper		592	< 2	< 2	0.34 J	< 2	< 2	< 2	< 2	< 2	< 2	0%
Lead	15		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0%
Mercury	2	4800	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0%
Nickel		320	0.2 J	0.23 J	0.37 J	< 1	0.37 J	0.24 J	< 1	0.15 J	< 1	acceptable
Selenium		80	< 0.5	< 0.5	< 0.5	< 0.5	0.28 J	0.16 J	0.29 J	0.24 J	0.24 J	0.00%
Silver		80	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0%
Thallium		1.1	< 1	0.14 J	< 1	< 1	0.13 J	< 1	< 1	< 1	< 1	0%
Zinc		4800	1.25 J	1.47 J	1.52 J	1.6 J	1.43 J	0.91 J	1.16 J	1.41 J	1.21 J	15.27%

NOTES:
n/a = not applicable
<0.5 = not detected above the method detection limit indicated.
ug/L = microgram per liter
J = estimated. Values reported are above the method detection limit but below the method reporting limit.

Table 6
Semi-Volatile and Volatile Organic Compounds Detected in Groundwater
3rd Quarter 2008
Camp Bonneville, Vancouver, Washington

Analyte	MTCA Method A Cleanup Levels	MTCA Method B Standard Values	Trip Blank 9/23/08	LCMW01S 9/24/2008	L4MW02B 9/26/2008	L4MW05A 9/25/2008
SVOCs (ug/L)						
Caprolactam*			NT	13.2	NT	NT
VOCs (ug/L)						
1,1,1-Trichloroethane	200		< 1		23.4	< 1
1,1-Dichloroethane		800		< 1	19.2	< 1
1,1-Dichloroethene		400		< 1	7.83	< 1
Dichlorodifluoromethane	1600	1600		< 5	22.6	< 5
Freon 113*				ND	54.7	ND
Methylene Chloride	5		0.17	< 5	< 5	< 5
Tetrachloroethene	5			< 1	< 1	0.44

* detected as a tentatively identified compound.
NT = not tested
ND = not detected in the TIC analysis
<1.00 = not detected above the method reporting limit indicated.

Table 7
Field Parameters for Groundwater Samples
3rd Quarter 2008
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Dissolved Oxygen	pH	Oxydation Reduction Potential	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	mg/l	S.U.	Millivolts	NTU
20L4MW01AW	09/25/2008	17.11	514.29	11.32	29	7.24	4.84	-155.5	0
20L4MW01BW	09/25/2008	14.31	515.26	10.49	28	9.84	4.96	-167.3	0
20L4MW02AW	09/25/2008	28.97	490.96	11.05	30	8.34	4.39	-151.5	0
20L4MW02BW	09/26/2008	33.89	484.57	12.82	62	1.18	5.45	-285.1	0
20L4MW03AW	09/26/2008	30.89	483.96	11.47	24	7.67	4.94	-174.3	0.26
20L4MW03BW	09/26/2008	28.82	482.65	11.47	51	6.56	5.44	-166	2.53
20L4MW04AW	09/25/2008	28.54	483.25	10.54	19	6.92	4.68	-152.1	0.14
20L4MW05AW	09/25/2008	25.33	484.58	10.11	30	6.78	4.87	-133.3	0
20L4MW07BW	09/25/2008	40.76	440.04	9.69	35	6.89	5.03	-154.1	0
20L4MW17W	09/24/2008	11.17	350.31	13.41	238	4.62	7.01	-219.8	0.51
20L4MW18W	09/24/2008	12.12	350.72	11.26	130	8.07	5.98	-194.9	2.15
20LCMW01SW	09/24/2008	6.54	283.62	12.03	96	7.15	6.42	-209.4	0
20LCMW01DW	09/24/2008	6.64	283.61	11.97	99	7.75	6.42	-202.6	0
20LCMW02SW	09/24/2008	7.51	283.68	11.68	95	8.28	6.4	-186	0
20LCMW02DW	09/24/2008	7.91	283.68	11.19	100	8.1	6.28	-202.5	0
20LCMW03SW	09/23/2008	7.17	283.74	13.25	91	7.36	6.37	-236.2	0
20LCMW03DW	09/23/2008	7.15	283.83	11.52	99	7.67	6.26	-245.3	0.69
20LCMW04SW	09/23/2008	7.20	284.43	11.94	96	5.54	5.64	-261.7	0
20LCMW04DW	09/23/2008	7.59	284.20	11.05	108	7.34	6.2	-222.7	0

* depth in feet measured from top fo well PVC casing.
** water level in feet above mean sea level, relative to top of PVC casing elevation survey
Field parameters were measured using a YSI 556 and a flow through cell, with the exception of turbidity, which was measured using a HF Scientific TPW Meter.

Table 8
Well Number and Construction Details
Camp Bonneville, Vancouver, Washington

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.80	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 2
Constituents Detected in Groundwater
4th Quarter 2008

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Method A Level	LCMW01D 1/13/2009	LCMW01S 1/13/2009	LCMW02D 1/13/2009	LCMW02D (dup) 1/13/2009	RPD (<20%)	LCMW02S 1/12/2009	LCMW03D 1/12/2009	LCMW03S 1/12/2009	LCMW04D 1/12/2009	LCMW04S 1/12/2009
Petroleum Hydrocarbons (mg/L)											
Gasoline Range Organics	1000	< 80.0	< 80.0	< 80.0	< 80.0	acceptable	< 80.0	< 80.0	< 80.0	< 80.0	< 80.0
Diesel Range Organics	500	< 0.0769	< 0.0762	< 0.0762	< 0.0755	acceptable	< 0.0755	< 0.0755	< 0.0762	< 0.0755	< 0.0755
Oil Range Organics	500	< 0.481	< 0.476	< 0.476	< 0.472	acceptable	< 0.472	< 0.472	< 0.476	< 0.472	< 0.472
Anions/Cations (mg/L)											
Chloride		1.42	1.34	1.8	1.78	1.12%	1.56	1.57	1.53	1.52	2.33
Nitrate/Nitrite-Nitrogen		0.129	0.115	0.243	0.218	10.85%	0.136	0.488	0.313	0.185	0.883
Nitrite		< 0.100	< 0.100	< 0.100	< 0.100		< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Sulfate		< 1.00	< 1.00	1.06	< 1.00	5.83%	< 1.00	< 1.00	< 1.00	1.24	< 1.00
Explosives (ug/L)											
HMX		< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
RDX (8330)		< 0.2	< 0.2	< 0.2	< 0.2	acceptable	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
RDX (8321)											
Nitroglycerin		< 3	< 3	< 3	< 3	acceptable	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	< 2	acceptable	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate		< 1	< 1	< 1	< 1	acceptable	< 1	< 1	< 1	< 1	< 1
General Chemistry (mg/L)											
Dissolved Organic Carbon		< 1.00	< 1.00	< 1.00	< 1.00	acceptable	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Total Organic Carbon		< 1.00	< 1.00	< 1.00	< 1.00	acceptable	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Total Suspended Solids		< 10.0	< 10.0	< 10.0	< 10.0	acceptable	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
pH		6.75	6.69	6.65	6.67	0.30%	6.51	6.56	6.57	6.75	6.51
Alkalinity, Bicarbonate (As CaCO3)		46.5	45.7	46.8	46.7	0.21%	45.7	47.1	44.6	51.8	40.9
Alkalinity, Carbonate (As CaCO3)		<5.00	<5.00	<5.00	<5.00	acceptable	<5.00	<5.00	<5.00	<5.00	<5.00
Total Alkalinity		46.5	45.7	46.8	46.7	0.21%	45.7	47.1	44.6	51.8	40.9

Table 2
Constituents Detected in Groundwater
4th Quarter 2008

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Method A Level	L4MW017 1/7/2009	L4MW018 1/7/2009	L4MW01A 1/7/2009	L4MW01B 1/7/2009	L4MW01B (dup) 1/7/2009	RPD (<20%)	L4MW02A 1/8/2009	L4MW02B 1/9/2009	L4MW03A 1/9/2009	L4MW03B 1/9/2009	L4MW04A 1/8/2009	L4MW05A 1/8/2009	L4MW07B 1/7/2009
Petroleum Hydrocarbons (mg/L)														
Gasoline Range Organics	1000													
Diesel Range Organics	500													
Oil Range Organics	500													
Anions/Cations (mg/L)														
Chloride														
Nitrate/Nitrite-Nitrogen														
Nitrite														
Sulfate														
Explosives (ug/L)														
HMX		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	3.2	3.9	0.39 J	< 0.4	< 0.4	0.19	< 0.4
RDX (8330)		< 0.2	< 0.2	0.088 J*	0.092 J *	0.17 J*	59.54%	17	79	10	4.3	2.5	3.5	0.062J *
RDX (8321)			< 0.1	0.49	0.064 J	0.064 J	0.00%							<0.1
Nitroglycerin		< 3	< 3	< 3	< 3	< 3	acceptable	< 3	< 15	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	< 2	< 2	acceptable	< 2	< 10	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate		< 1	< 1	36	0.73 J	0.69 J	5.63%	150	510	96	43	34	41	2.4
General Chemistry (mg/L)														
Dissolved Organic Carbon														
Total Organic Carbon														
Total Suspended Solids														
pH														
Alkalinity, Bicarbonate (As CaCO3)														
Alkalinity, Carbonate (As CaCO3)														
Total Alkalinity														

NOTES

* = More than 40% RPD between primary and confirmation detector results. The lower of the two results is reported.

< 5 = not detected above the indicated method detection limit.

J = estimated. Value reported is below the method reporting limit but above the method detection limit.

mg/L = milligrams per liter

ug/L = micrograms per liter

RPD = relative percent different

Table 3
Total and Dissolved Metals
4th Quarter 2008
Camp Bonneville, Vancouver, Washington

Analyte	MTCA Method A Levels	MTCA Method B Levels	LCMW01D	LCMW01S	LCMW02D	LCMW02D(DUP)	RPD	LCMW02S	LCMW03D	LCMW03S	LCMW04D	LCMW04S
Trace Metals (ug/L)			1/13/2009	1/13/2009	1/13/2009	1/13/2009	**(<20%)**	1/12/2009	1/12/2009	1/12/2009	1/12/2009	1/12/2009
Antimony		1.4	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Arsenic	5		< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	1.15	< 1.00
Beryllium		0.02	< 0.500	< 0.500	< 0.500	< 0.500	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Cadmium	5		< 0.500	< 0.500	< 0.500	< 0.500	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Chromium	50		< 2.00	< 2.00	< 2.00	< 2.00	0%	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Copper		592	< 2.00	< 2.00	< 2.00	< 2.00	0%	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Lead	15		< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Mercury	2	4800	< 0.000200	< 0.000200	< 0.000200	< 0.000200	0%	< 0.000200	< 0.000200	< 0.000200	< 0.000200	< 0.000200
Nickel		320	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	2.20	< 1.00
Selenium		80	< 0.500	< 0.500	< 0.500	< 0.500	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Silver		80	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Thallium		1.1	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Zinc		4800	< 5.00	< 5.00	< 5.00	< 5.00	0%	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Dissolved Trace Metals (ug/L)												
Antimony		1.4	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Arsenic	5		< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	1.06	< 1.00
Beryllium		0.02	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Cadmium	5		< 0.500	< 0.500	< 0.500	< 0.500	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Chromium	50		< 2.00	< 2.00	< 2.00	< 2.00	0%	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Copper		592	< 2.00	< 2.00	< 2.00	< 2.00	0%	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Lead	15		< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Mercury	2	4800	< 0.200	< 0.200	< 0.200	< 0.200	0%	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Nickel		320	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Selenium		80	< 0.500	< 0.500	< 0.500	< 0.500	0%	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Silver		80	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Thallium		1.1	< 1.00	< 1.00	< 1.00	< 1.00	0%	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Zinc		4800	< 5.00	< 5.00	< 5.00	< 5.00	0%	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00

NOTES:
<0.5 = not detected above the method detection limit indicated.
ug/L = microgram per liter

Table 4
Semi-Volatile and Volatile Organic Compounds Detected in Groundwater
4th Quarter 2008
Camp Bonneville, Vancouver, Washington

Analyte	MTCA Method A Levels	MTCA Method B Levels	L4MW02B 1/9/2009
VOCs (ug/L)			
1,1,1-Trichloroethane	200		21.9
1,1-Dichloroethane		800	17.5
1,1-Dichloroethene		400	6.04
1,2-Dichloroethane	5		1.58
Dichlorodifluoromethane	1600	1600	16.9

Note: No SVOCs were detected in any of the Lacamas Creek monitoring well samples. VOCs were detected in only the one monitoring well listed above.

Table 5
Field Parameters for Groundwater Samples
4th Quarter 2008
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Dissolved Oxygen	pH	Oxydation Reduction Potential	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	mg/l	S.U.	Millivolts	NTU
20L4MW01AW	01/07/2009	12.06	519.34	10.72	30	7.02	5.82	120.5	1.76
20L4MW01BW	01/07/2009	8.05	521.52	10.1	24	9.17	6.05	114	0
20L4MW02AW	01/08/2009	21.95	497.98	10.4	52	8.55	4.9	401.1	1.26
20L4MW02BW	01/09/2009	28.53	489.93	9.64	62	1.15	5.61	122	0.23
20L4MW03AW	01/09/2009	26.53	488.32	9.77	22	7.16	4.94	318.1	1.29
20L4MW03BW	01/09/2009	24.48	486.99	9.18	45	6.38	5.58	310.6	3.42
20L4MW04AW	01/08/2009	24.48	487.31	9.4	16	6.92	5.16	367.6	3.92
20L4MW05AW	01/08/2009	19.23	490.68	9.01	26	6.74	5.39	369.8	0.45
20L4MW07BW	01/07/2009	37.48	443.32	9.37	30	6.44	6.1	101.2	0.36
20L4MW17W	01/07/2009	8.54	352.94	10.34	212	6.61	7.35	40.2	4.34
20L4MW18W	01/07/2009	9.52	353.32	10.42	116	8.16	6.65	73.1	925.6***
20LCMW01SW	01/13/2009	3.92	286.24	10.58	86	7.12	6.68	249.8	0
20LCMW01DW	01/13/2009	4.10	286.15	10.54	90	7.52	6.74	247.1	0
20LCMW02SW	01/12/2009	4.33	286.86	11.04	85	7.98	6.75	269.2	0
20LCMW02DW	01/13/2009	4.87	286.72	10.64	91	7.47	6.68	238.4	0.05
20LCMW03SW	01/12/2009	3.91	287.00	10.75	84	7.93	6.69	264.9	0
20LCMW03DW	01/12/2009	3.94	287.04	10.54	90	7.61	6.69	265	0.05
20LCMW04SW	01/12/2009	3.83	287.80	9.8	86	7.18	6.08	276.1	0.01
20LCMW04DW	01/12/2009	4.37	287.42	10.04	96	7.75	6.98	255.4	0.23

* depth in feet measured from top of well PVC casing.

** water level in feet above mean sea level, relative to top of PVC casing elevation survey

Field parameters were measured using a YSI 556 and a flow through cell, with the exception of turbidity,
which was measured using a HF Scientific TPW Meter.

***Problems with the pump in this well required taking it out and reinstalling it several times. This well and MW-17 likely flooded during the previous week's rainstorms.

Table 6
Well Number and Construction Details
Camp Bonneville, Vancouver, Washington

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.80	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	LCMW01D 03/23/2009	LCMW01S 03/23/2009	LCMW02D 03/23/2009	LCMW02S 03/23/2009	LCMW03D 03/23/2009	LCMW03S 03/23/2009	LCMW04D 03/23/2009	LCMW04S 03/23/2009	LCMW04S (Dup) 03/23/2009	RPD (<20%)	L4MW017 03/24/2009
Explosives (ug/L)												
HMX	1800**	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4
RDX	0.8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	acceptable	< 0.2
Nitroglycerin		< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	acceptable	< 3
PETN		< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	acceptable	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	acceptable	< 0.4
Perchlorate	11	< 1	< 1	< 1	< 1	< 1	< 2	< 1	<10 J***	< 10	acceptable	< 1
VOCs (ug/L)												
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
1,1-Dichloroethene		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	acceptable	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	acceptable	< 5

* Federal and State Groundwater Maximum Contaminant Level

** EPA Region 6 Human Health Screening levels

All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Analyte not detected. MRL estimated due to blank contamination and matrix interference.

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	L4MW018 03/24/2009	L4MW01A 03/24/2009	L4MW01A (dup) 03/24/2009	RPD (<20%)	L4MW01B 03/24/2009	L4MW02A 03/25/2009	L4MW02B 03/25/2009	L4MW03A 03/25/2009	L4MW03B 03/25/2009	L4MW04A 03/24/2009	L4MW05A 03/24/2009	L4MW07B 03/24/2009
Explosives (ug/L)													
HMX	1800**	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	3.4	3.3	0.52	< 0.4	< 0.4	0.19 J	< 0.4
RDX	0.8	< 0.2	0.22	0.12 J	acceptable	< 0.2	**16**	**74**	**9.3**	**4.2**	**2.6**	**3.6**	< 0.2
Nitroglycerin		< 3	< 3	< 3	acceptable	< 3	< 3	< 15	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	acceptable	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate	11	< 1	6 J	7.8 J	26.09%	1.2	**190**	**450**	**83**	**39**	**32**	**39**	2.2
VOCs (ug/L)													
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	acceptable	< 1	< 1	23.2	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	acceptable	< 1	< 1	19.4	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene		< 1	< 1	< 1	acceptable	< 1	< 1	6.71	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	acceptable	< 5	< 5	26.1	< 5	< 5	< 5	< 5	< 5

* Federal and State Groundwater Maximum Contaminant Level

** EPA Region 6 Human Health Screening levels All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Analyte not detected. MRL estimated due to blank cc

NOTES

ug/L = micrograms per liter

< 5 = not detected above the indicated method detection limit.

J = estimated. Value fails the RPD of 20% or reported value is between MRL and MDL.

RPD = relative percent different

Table 3
Field Parameters for Groundwater Samples
1st Quarter 2009
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Dissolved Oxygen	pH	Oxydation Reduction Potential	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	mg/l	S.U.	Millivolts	NTU
22L4MW01AW	03/24/2009	16.52	514.88	9.89	40	6.46	5.9	307.3	0.07
22L4MW01BW	03/24/2009	13.13	516.44	9.83	25	8.71	5.93	305.6	0.05
22L4MW02AW	03/25/2009	25.67	494.26	10.38	36	7.1	5.6	250	0.28
22L4MW02BW	03/25/2009	31.31	487.15	9.76	60	1.06	6.3	-15.4	0.33
22L4MW03AW	03/25/2009	28.97	485.88	9.94	22	6.88	5.68	259.3	0.95
22L4MW03BW	03/25/2009	27.13	484.34	9.46	48	5.72	6.15	257.4	1.98
22L4MW04AW	03/24/2009	27.34	484.45	9.62	17	6.2	5.77	311.1	0.47
22L4MW05AW	03/24/2009	23.59	486.32	9.39	27	6.13	5.88	302.7	0.01
22L4MW07BW	03/24/2009	39.33	441.47	9.11	33	6.13	6.14	278.3	0.01
22L4MW17W	03/24/2009	10.22	351.26	8.57	226	4.43	7.36	75.8	1.05
22L4MW18W	03/24/2009	11.22	351.62	9.87	129	7.6	6.71	223.7	2.07
22LCMW01SW	03/23/2009	4.80	285.36	9.37	85	7.77	6.98	256.7	0.16
22LCMW01DW	03/23/2009	5.12	285.13	9.97	90	8.28	6.97	248.6	0.15
22LCMW02SW	03/23/2009	5.15	286.04	9.93	89	7.81	6.92	248.6	0.08
22LCMW02DW	03/23/2009	5.64	285.95	10.4	91	8.4	7	250	0.12
22LCMW03SW	03/23/2009	4.50	286.41	9.73	86	8.55	6.92	246.1	0.01
22LCMW03DW	03/23/2009	4.73	286.25	10.25	93	8.42	6.93	241.8	0.18
22LCMW04SW	03/23/2009	4.48	287.15	8.24	89	5.96	6.63	251	0.01
22LCMW04DW	03/23/2009	5.10	286.69	9.67	100	8.61	7.07	245.6	0.23

* depth in feet measured from top of well PVC casing.

** water level in feet above mean sea level, relative to top of PVC casing elevation survey

Field parameters were measured using a YSI 556 and a flow through cell, with the exception of turbidity, which was measured using a HF Scientific TPW Meter.

Table 4
Well Number and Construction Details
Camp Bonneville, Vancouver, Washington

Well Number in PBS Work Contract	WADOE Well Tag Number	Well Location	Measured Total Depth (ft)*	Well Log Total Depth (ft)**	Screened Interval (ft)***	Top of PVC Casing Elevation (feet above mean sea level)	Well Number on Steel Casings/Caps (CHPPM No.)
LC-MW01S	AHA-359	Lacamas Cr.	22.71	23.00	10-20	290.16	LC-MW01S
LC-MW06D	AHA-358	Lacamas Cr.	42.21	42.50	29.5-39.5	290.25	LC-MW01D
LC-MW02S	AHA-364	Lacamas Cr.	17.46	17.70	10-15	291.19	LC-MW02S
LC-MW07D	AHA-357	Lacamas Cr.	37.83	38.10	25-35	291.59	LC-MW02D
LC-MW03S	AHA-363	Lacamas Cr.	20.09	20.35	13-18	290.91	LC-MW03S
LC-MW08D	AHA-362	Lacamas Cr.	39.36	39.48	27-37	290.98	LC-MW03D
LC-MW04S	AHA-375	Lacamas Cr.	16.49	16.80	9-14	291.63	LC-MW04S
LC-MW09D	AHA-361	Lacamas Cr.	37.03	37.13	24.5-34.5	291.79	LC-MW04D
L4-MW01A	N/A	Landfill 4	30.17	30.40	N/A	531.40	L4-MW01A
L4-MW01B	AGL-482	Landfill 4	55.54	56.00	43-53	529.57	L4-MW01B
L4-MW02A	N/A	Landfill 4	40.21	40.20	N/A	519.93	L4-MW02A
L4-MW02B	AGL-483	Landfill 4	74.97	75.00	62-72	518.46	L4-MW02B
L4-MW03A	AGL-466	Landfill 4	48.71	49.00	41-46	514.85	L4-MW03A
L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
L4-MW04A	AGL-465	Landfill 4	46.44	46.00	33-43	511.79	L4-MW04A
L4-MW05A	AGL-467	Landfill 4	36.63	36.00	28-33	509.91	L4-MW05A
L4-MW07B	N/A	Landfill 4	58.86	58.90	46-56	480.8	L4-MW07B
L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
L4-MW18	ALB-251	Landfill 4	22.60	22.01	10-20	362.84	L4-MW18

Notes:
* = depth in feet measured from top of well PVC casing in December 2007. Sediment present at bottom of some casings.
** = casing depth in feet recorded on well log; measured from top of PVC casing
*** = screened interval reported on well completion logs; feet below ground surface
N/A = not available

Table 2
Constituents Detected in Groundwater
1st Quarter 2009

Camp Bonneville, Vancouver, Washington

Analytes	MTCA Mthd B Std. Cleanup Values (ug/L)	L4MW018 03/24/2009	L4MW01A 03/24/2009	L4MW01A (dup) 03/24/2009	RPD (<20%)	L4MW01B 03/24/2009	L4MW02A 03/25/2009	L4MW02B 03/25/2009	L4MW03A 03/25/2009	L4MW03B 03/25/2009	L4MW04A 03/24/2009	L4MW05A 03/24/2009	L4MW07B 03/24/2009
Explosives (ug/L)													
HMX	1800**	< 0.4	< 0.4	< 0.4	acceptable	< 0.4	3.4	3.3	0.52	< 0.4	< 0.4	0.19 J	< 0.4
RDX	0.8	< 0.2	0.22	0.12 J	acceptable	< 0.2	**16**	**74**	**9.3**	**4.2**	**2.6**	**3.6**	< 0.2
Nitroglycerin		< 3	< 3	< 3	acceptable	< 3	< 3	< 15	< 3	< 3	< 3	< 3	< 3
PETN		< 2	< 2	< 2	acceptable	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2
Picric Acid		< 0.4	< 0.4	< 0.4	acceptable	< 0.4	< 0.4	< 2	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Perchlorate	11	< 1	6 J	7.8 J	26.09%	1.2	**190**	**450**	**83**	**39**	**32**	**39**	2.2
VOCs (ug/L)													
1,1,1-Trichloroethane	200*	< 1	< 1	< 1	acceptable	< 1	< 1	23.2	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	1600	< 1	< 1	< 1	acceptable	< 1	< 1	19.4	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene		< 1	< 1	< 1	acceptable	< 1	< 1	6.71	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	1600	< 5	< 5	< 5	acceptable	< 5	< 5	26.1	< 5	< 5	< 5	< 5	< 5

* Federal and State Groundwater Maximum Contaminant Level

** Region 6 Human Health Screening levels

All other are MTCA Method B Standard Groundwater Cleanup values

BOLD = exceeds cleanup values

*** Descrepancy with perchlorate discussed ir

NOTES

ug/L = micrograms per liter

< 5 = not detected above the indicated method detection limit.

J = estimated. Value fails the RPD of 20% or reported value is between MRL and MDL.

RPD = relative percent different

Table 3
Field Parameters for Groundwater Samples
1st Quarter 2009
Camp Bonneville, Vancouver, Washington

Sample ID	Date	Depth to Water	Water Elevation	Temperature	Specific Conductivity	Dissolved Oxygen	pH	Oxydation Reduction Potential	Turbidity
		ft below TOC*	Feet amsl	˚ C	uS/cm	mg/l	S.U.	Millivolts	NTU
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L4-MW03B	AGL-484	Landfill 4	61.85	63.00	50-60	511.47	L4-MW03B
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L4-MW17	ALB-252	Landfill 4	17.17	17.67	5-15	361.48	L4-MW17
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