

DRAFT
**Groundwater Sampling
and Analysis Report**
2nd Quarter 2008

Camp Bonneville Military Reservation

**23201 Northeast Pluss Road,
Vancouver, WA 98682**

**Prepared For:
Washington State
Department of Ecology**

**Prepared By:
Bonneville Conservation,
Restoration & Renewal Team**

July 2008





Engineering & Energy

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A Unit of Michael Baker Corporation

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July 30, 2008

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 – 2nd 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 – 2nd Quarter, 2008 for submittal to the Washington Department of Ecology (WDOE). Attached to this letter are:

- 1) Figures 1, 2, 6 and 7
- 2) Landfill 4/Demolition Area 1 Groundwater Data,
- 3) Draft Groundwater Sampling and Analysis Report – 2nd Quarter, 2008 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

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. As a result, many of the metals content of these samples either below detection limits or a fraction of their historic levels. All of the total and dissolved metals detections in groundwater from these wells were below MTCA Method A regulatory screening levels in the Boundary/Sentinel well results.
- Petroleum hydrocarbons have not been detected in any of the Boundary Area/Sentinel Wells throughout the monitoring period, except for an isolated detection of diesel range petroleum hydrocarbons in LCMW02DW at 0.15 mg/L in January 2006.
- Perchlorate and Explosive constituents were not detected at any of the Boundary/Sentinel Wells.

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

Upon review of historic groundwater data at Landfill 4/Demolition Area 1, the following appears to be occurring at the site:

- HMX and RDX concentrations in groundwater have been relatively stable in both concentration and distribution throughout all of the 23 LF4/DA1 groundwater sampling events (2001 to 2008).
- Well LF-MW-1A – perchlorate concentrations has been stable at 2 to 6 parts per billion (ppb) during the last 16 LF4/DA1 groundwater sampling events (with the exception of 17 ppb in the 4th quarter 2005); this well is located upgradient of the LF4/DA1.
- Well LF-MW-1B – although an estimated (above the MDL but below the MRL) perchlorate detection (0.59 ppb) was reported in this sampling event, this result may not be representative of onsite conditions. Since this well is located upgradient of the LF4/DA1 and since 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 LF-MW-2A – perchlorate concentrations appear to have reached a degree of equilibrium during the last nine quarterly sampling events (2006 to 2008) 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 ppb and ~ 495 mean sea level [MSL]), versus,
 - The highest perchlorate concentrations/lowest groundwater level occur in the 3rd quarter events (~280 ppb and ~ 490 MSL).
- Well LF-MW-2B - the perchlorate levels have been generally decreasing over the last 7 quarters from a peak concentration (530 ppb) in the 3rd quarter 2006 (when seasonal effects are taken into consideration). The perchlorate concentration patterns observed in LF-MW-2A are not repeated in the LF-MW-2B data. While there has been little historical connection between perchlorate concentrations and precipitation/groundwater elevations at this well, the perchlorate concentrations from the last three quarters sampling events have been increasing/decreasing with groundwater elevations.

LF-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 of all of these detections in 2nd Quarter 2008 samples were below MTCA Method A or B regulatory screening levels.

While concentrations of five new compounds (common laboratory contaminates -Isopropylbenzene, Methylene Chloride, n-Propylbenzene, and Trichlorofluoromethane, and Trichloroethene) were reported in the LF-MW-2B groundwater sample, the concentrations of these compounds were predominantly estimated (above the MDL but below the MRL) and are not considered representative of site conditions. Please note that all of these detections were below MTCA Method A or B regulatory screening levels:

Mr. Mike Gage

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Draft Groundwater Sampling and Analysis Report – 2nd Quarter, 2008

Camp Bonneville, Vancouver Washington

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- Well LF-MW-3A - perchlorate concentrations have been gradually decreasing from a peak concentration (120 ppb) observed in the 3rd quarter 2006 sampling event.
- Well LF-MW-3B - perchlorate concentrations have been gradually decreasing from a peak concentration (55 ppb) observed in the 4th quarter 2006 sampling event. An estimated (above the MDL but below the MRL) Picric Acid detection (0.14 ppb) was reported in this quarter.
- Well LF-MW-4A - perchlorate concentrations increased to a peak concentration (40 ppb) observed in the 4th quarter 2006 sampling event and have now been very consistent at about 29 ppb during the last four quarters. A common laboratory contaminant, Methylene Chloride (0.14 ppb), was reported in this quarter but was below MTCA Method A or B regulatory screening levels.
- Well LF-MW-5A - perchlorate concentrations have been generally decreasing from a peak of 64 ppb in the initial sampling event in the 3rd quarter 2001 to less than 40 ppb during the last 6 quarters. The trace detections of Tetrachloroethene have been generally stable at <1 ppb; below MTCA Method A or B regulatory screening levels.
- Well LF-MW-7B - perchlorate concentrations have been generally stable at 2 to 3 ppb for the last 19 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 LF-MW-17 – estimated (above the MDL but below the MRL) concentrations of 1,2,4-Trimethylbenzene and Naphthalene were detected at 0.12 and 0.35 ppb, respectively; both detections were below MTCA Method A or B regulatory screening levels.

Groundwater detections for VOCs are summarized in the attached tables and figures and monitoring well locations are shown on Attachment 1 - Figures 1 and 2; and Attachment 2 - Landfill 4/Demolition Area 1 Groundwater Data. Completed details for the latest sampling event are included in the Attachment 3 – Draft Groundwater Sampling and Analysis Report – 2nd Quarter 2008. The Electronic Data Deliverable (EDD) was uploaded to the Camp Bonneville website for access by WDOE on July 21, 2008.


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

Very truly yours,

MICHAEL BAKER JR., INC.



James D. Peyton
Senior Geologist

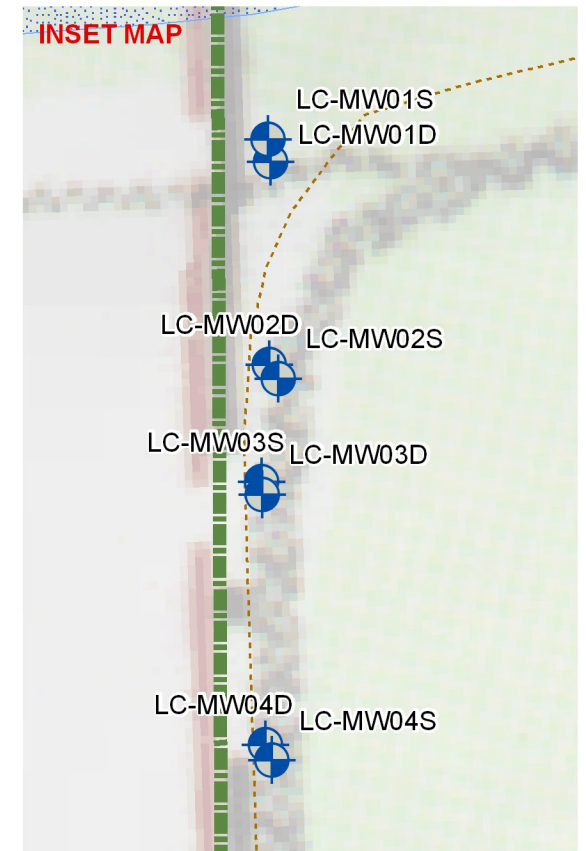
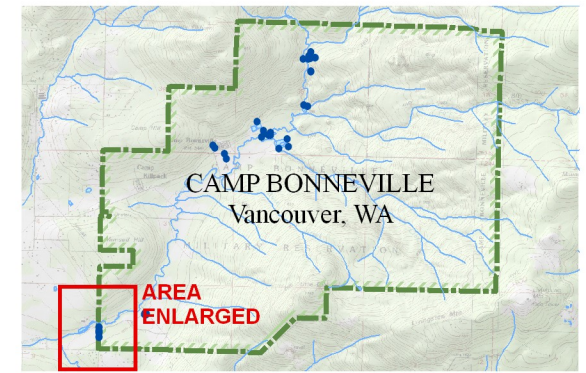
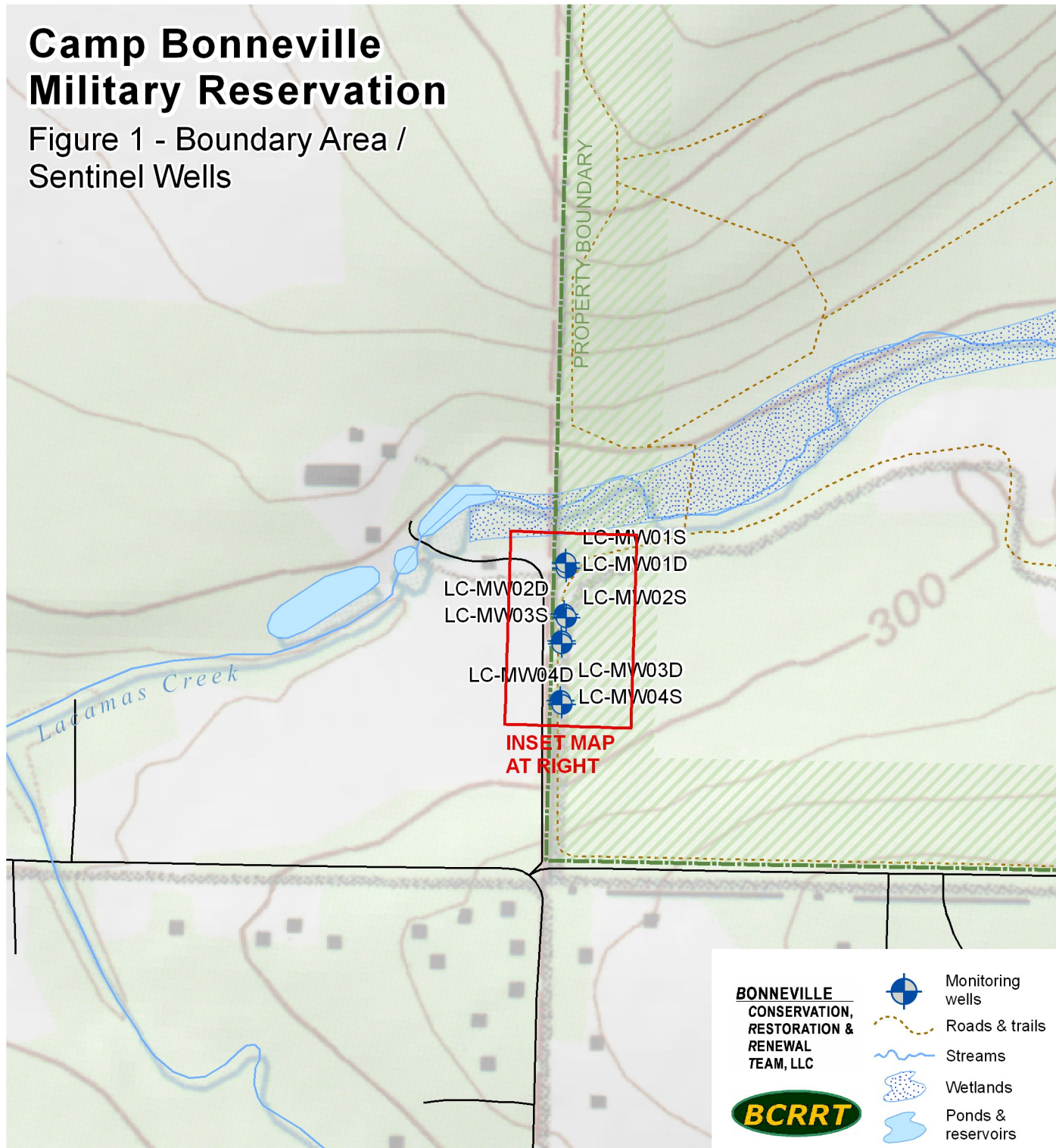


Mark J. Knight, CHMM
Project Manager

MJK/JDP/amt
Attachments






Camp Bonneville Military Reservation

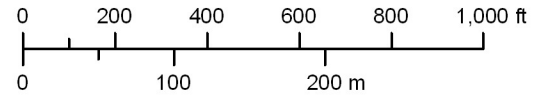
Figure 1 - Boundary Area /
Sentinel Wells



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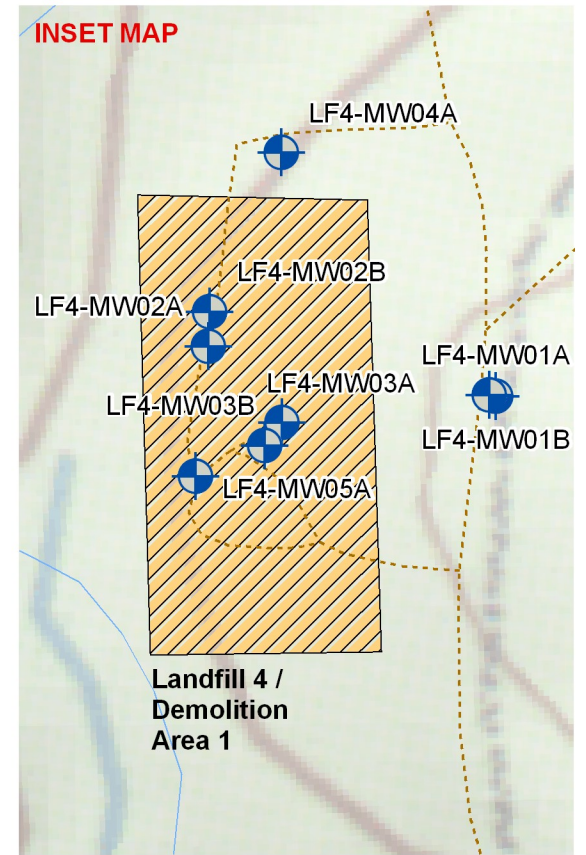
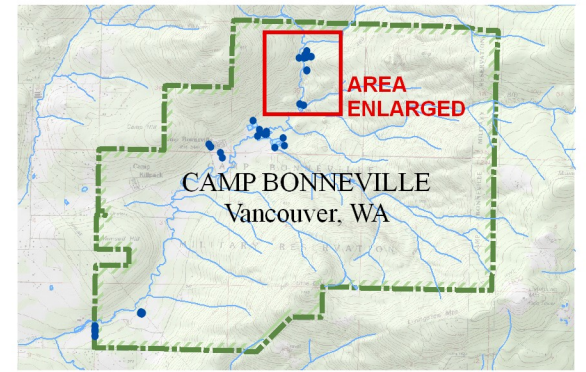
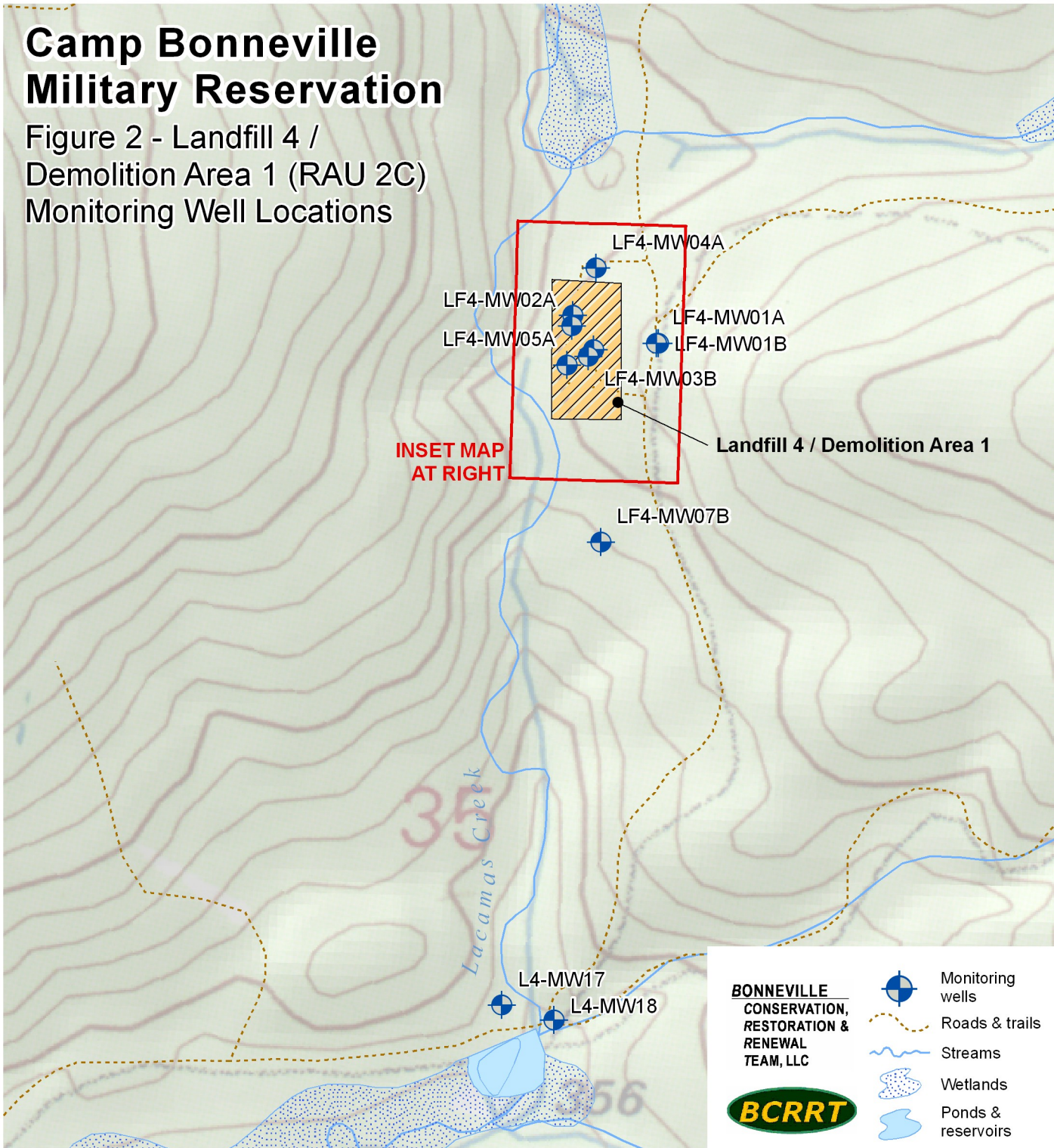
-  Monitoring wells
-  Roads & trails
-  Streams
-  Wetlands
-  Ponds & reservoirs



Scale - 1:5,000
Projection - Lambert Conformal Conic
Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers
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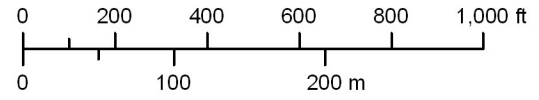
Figure 2 - Landfill 4 /
Demolition Area 1 (RAU 2C)
Monitoring Well Locations



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-  Monitoring wells
-  Roads & trails
-  Streams
-  Wetlands
-  Ponds & reservoirs



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Coordinate System - State Plane Washington South FIPS 4602
Data - Parsons & U.S. Army Corps of Engineers
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Figure 6
Landfill 4/Demolition Area 1
Shallow Groundwater Contours



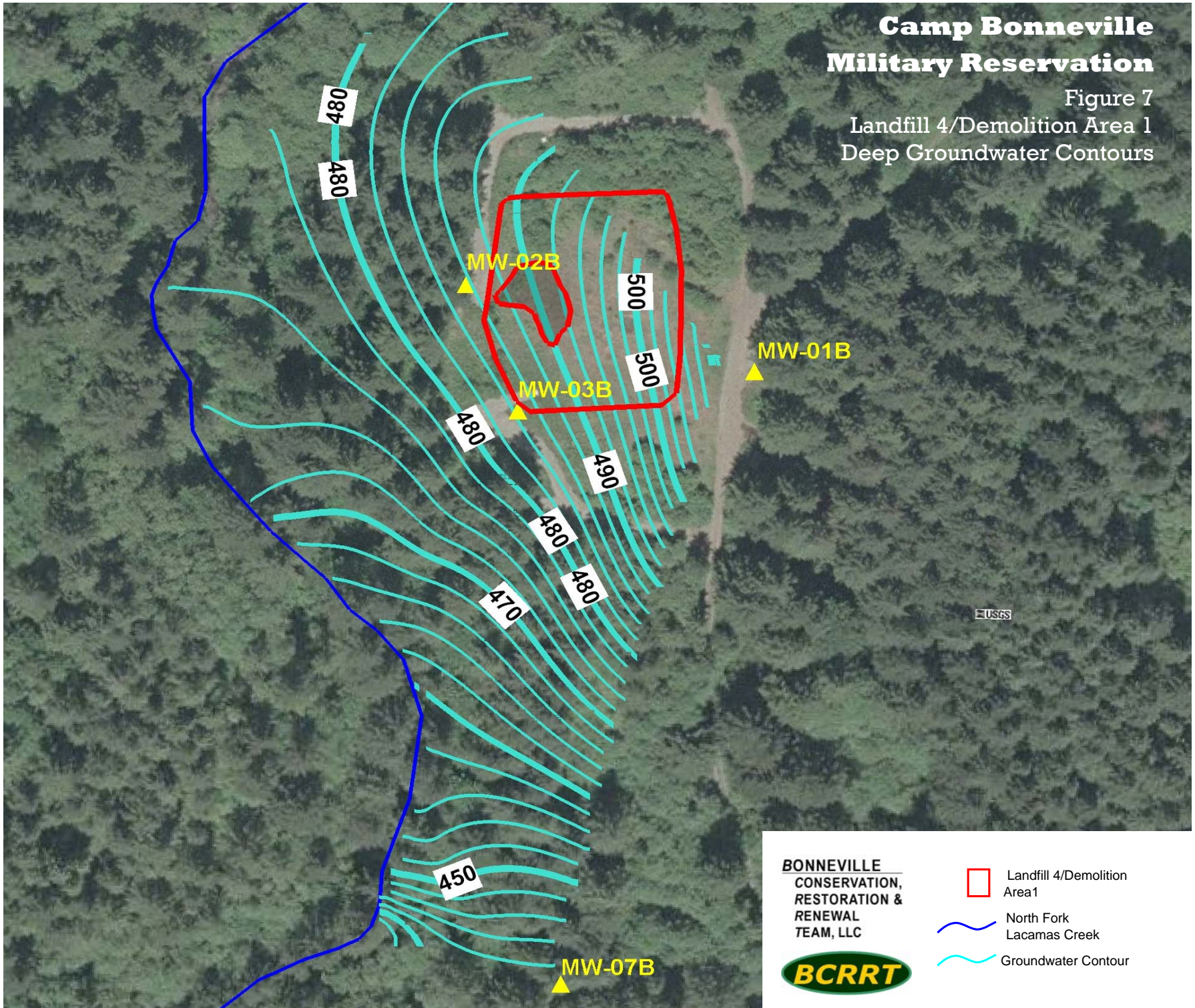
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-  Landfill 4/Demolition Area 1
-  North Fork Lacamas Creek
-  Groundwater Contour




Camp Bonneville Military Reservation

Figure 7
Landfill 4/Demolition Area 1
Deep Groundwater Contours

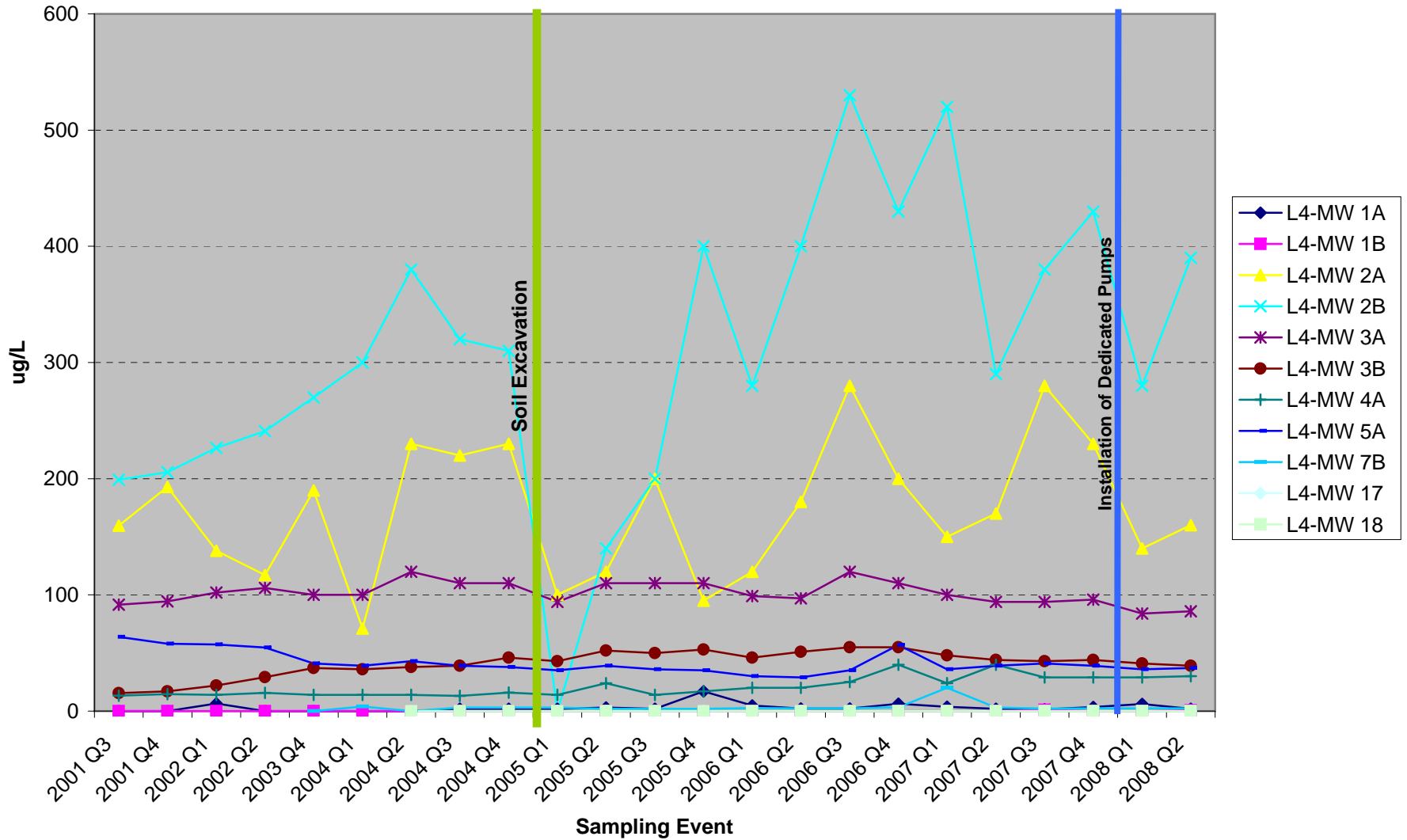


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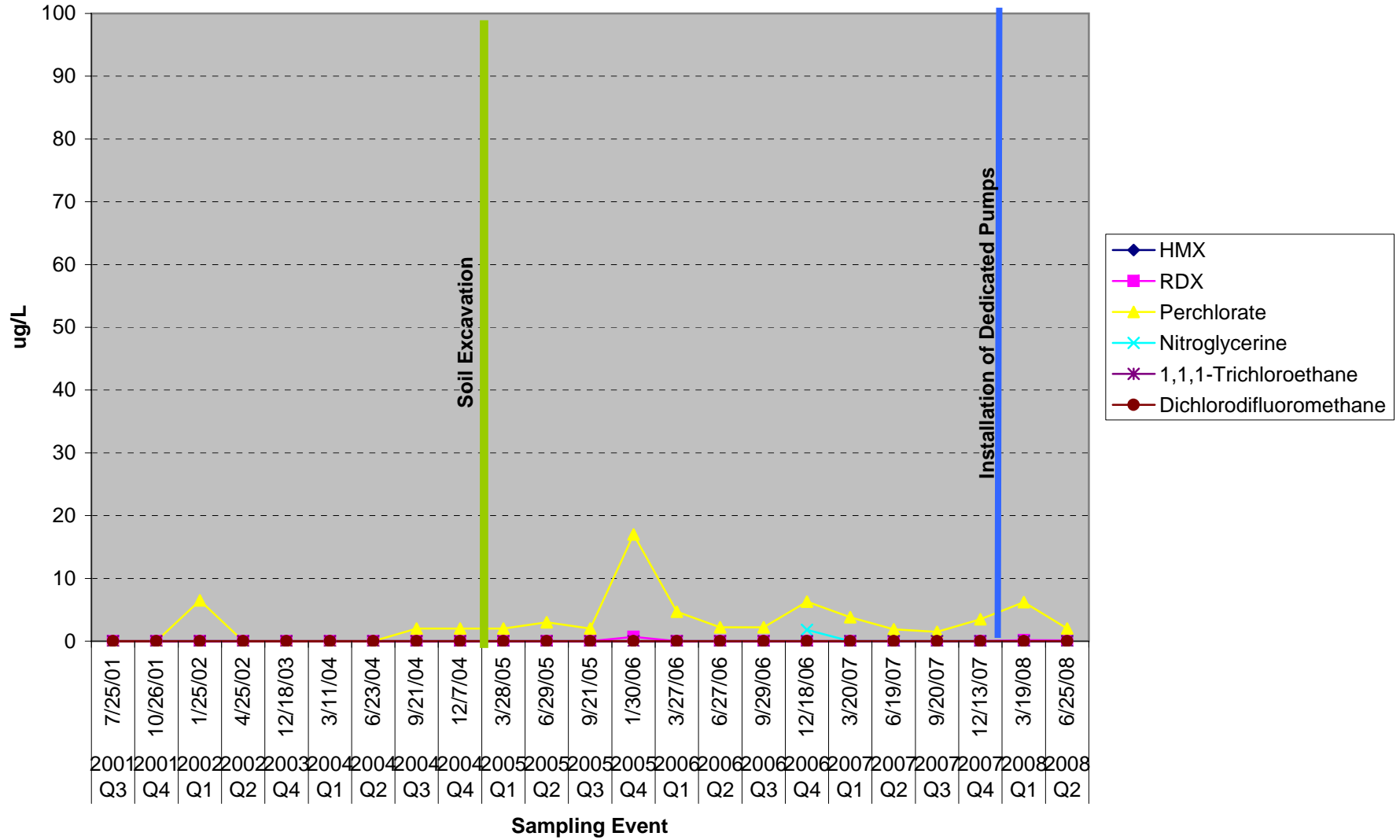


-  Landfill 4/Demolition Area 1
-  North Fork Lacamas Creek
-  Groundwater Contour

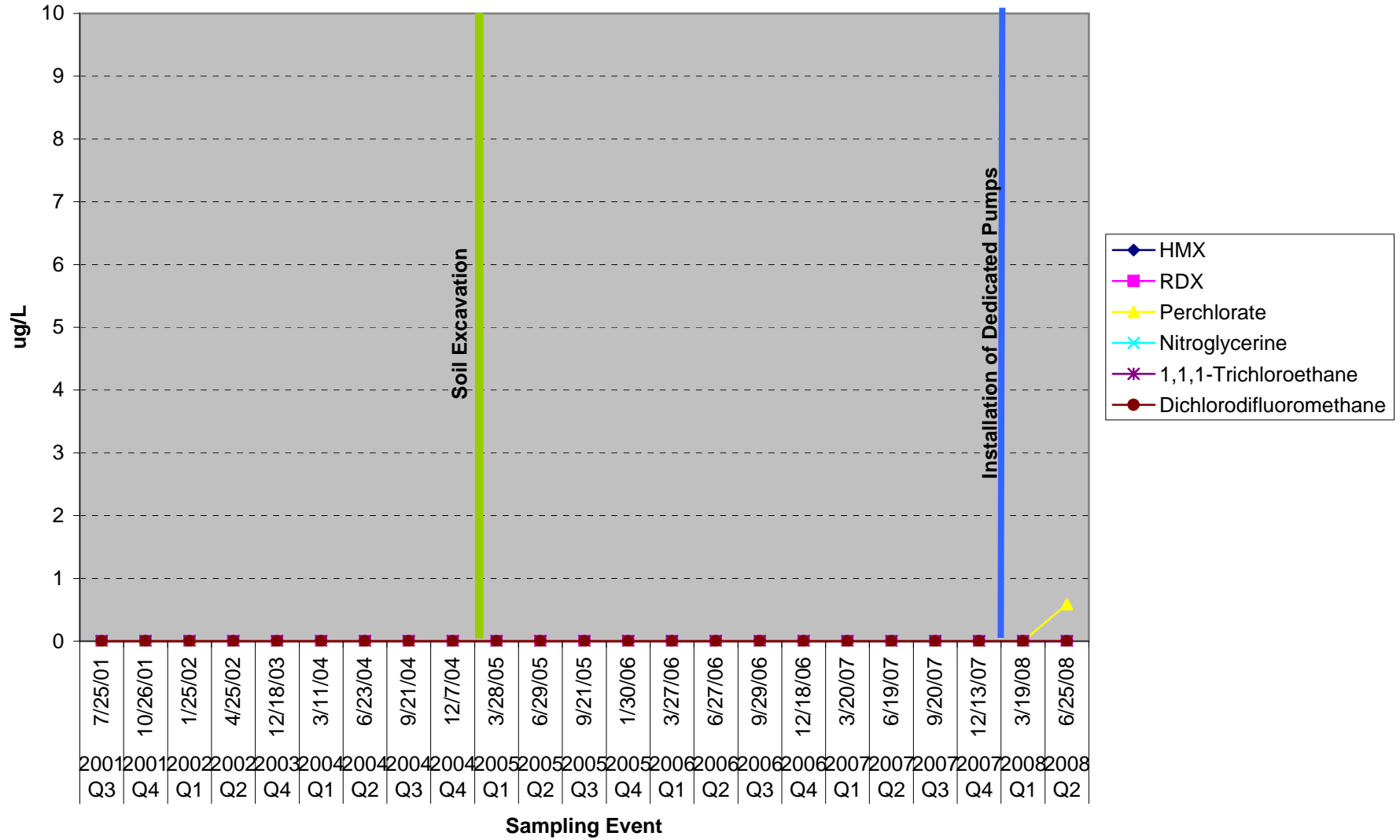
Landfill 4 Perchlorate Results



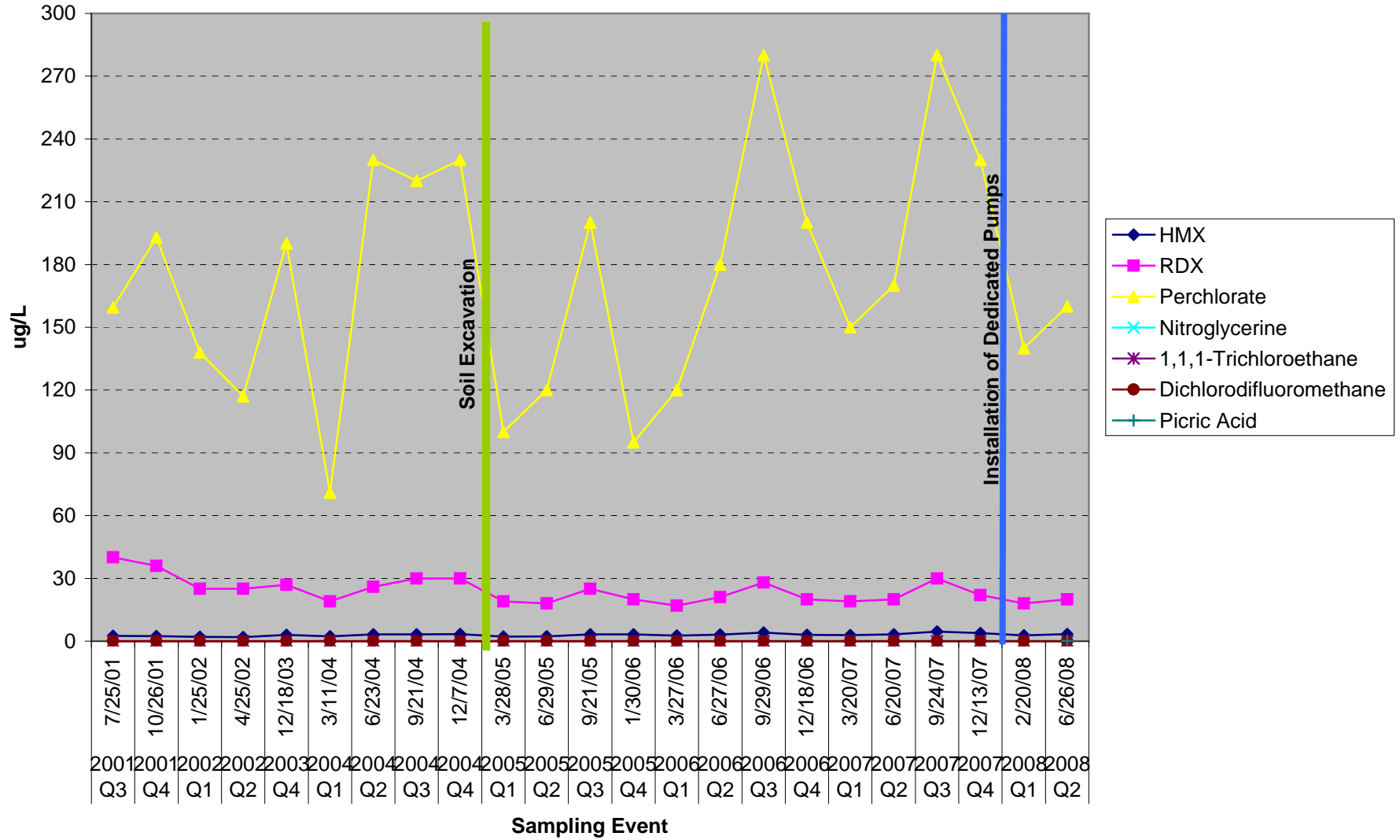
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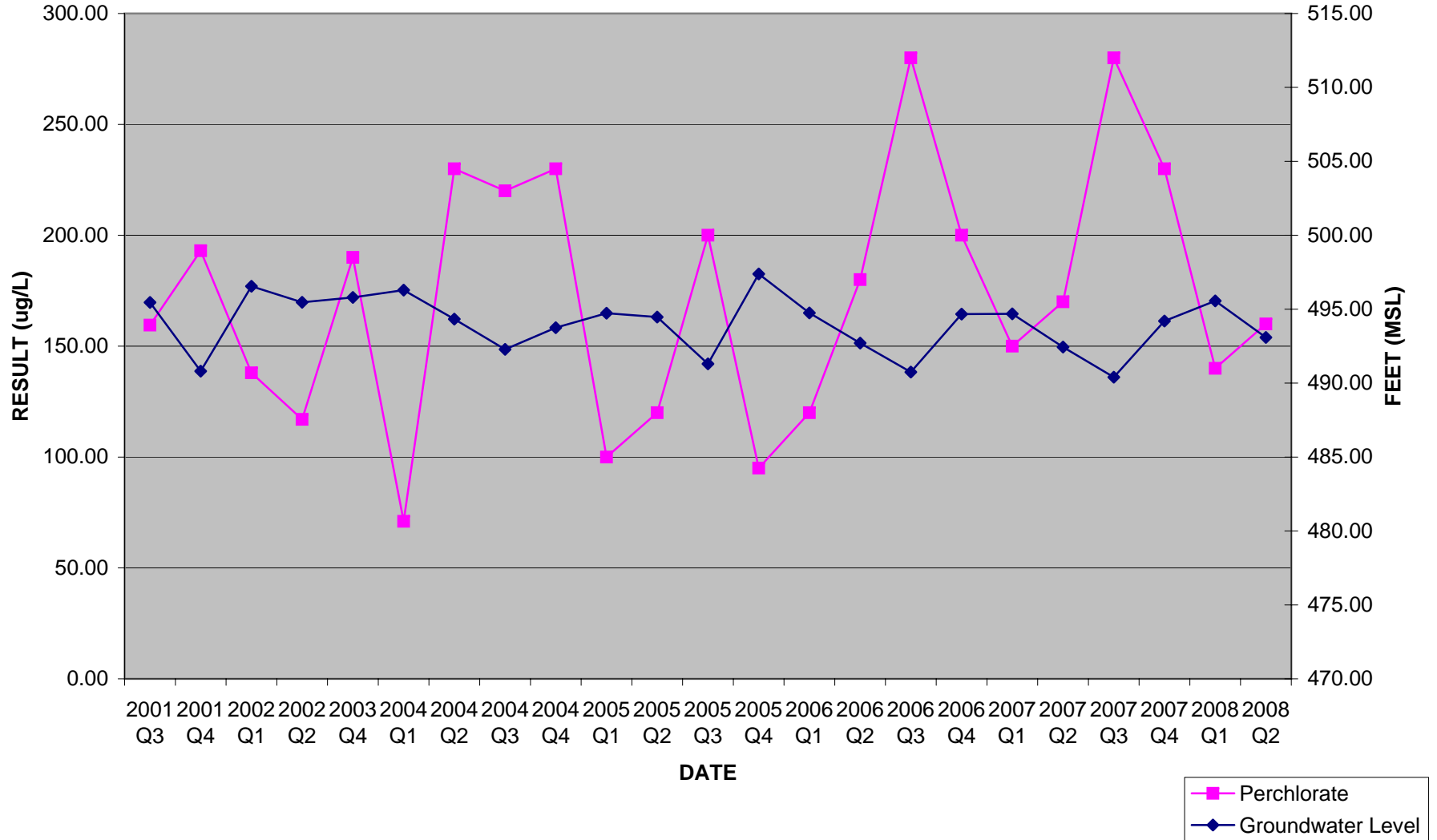
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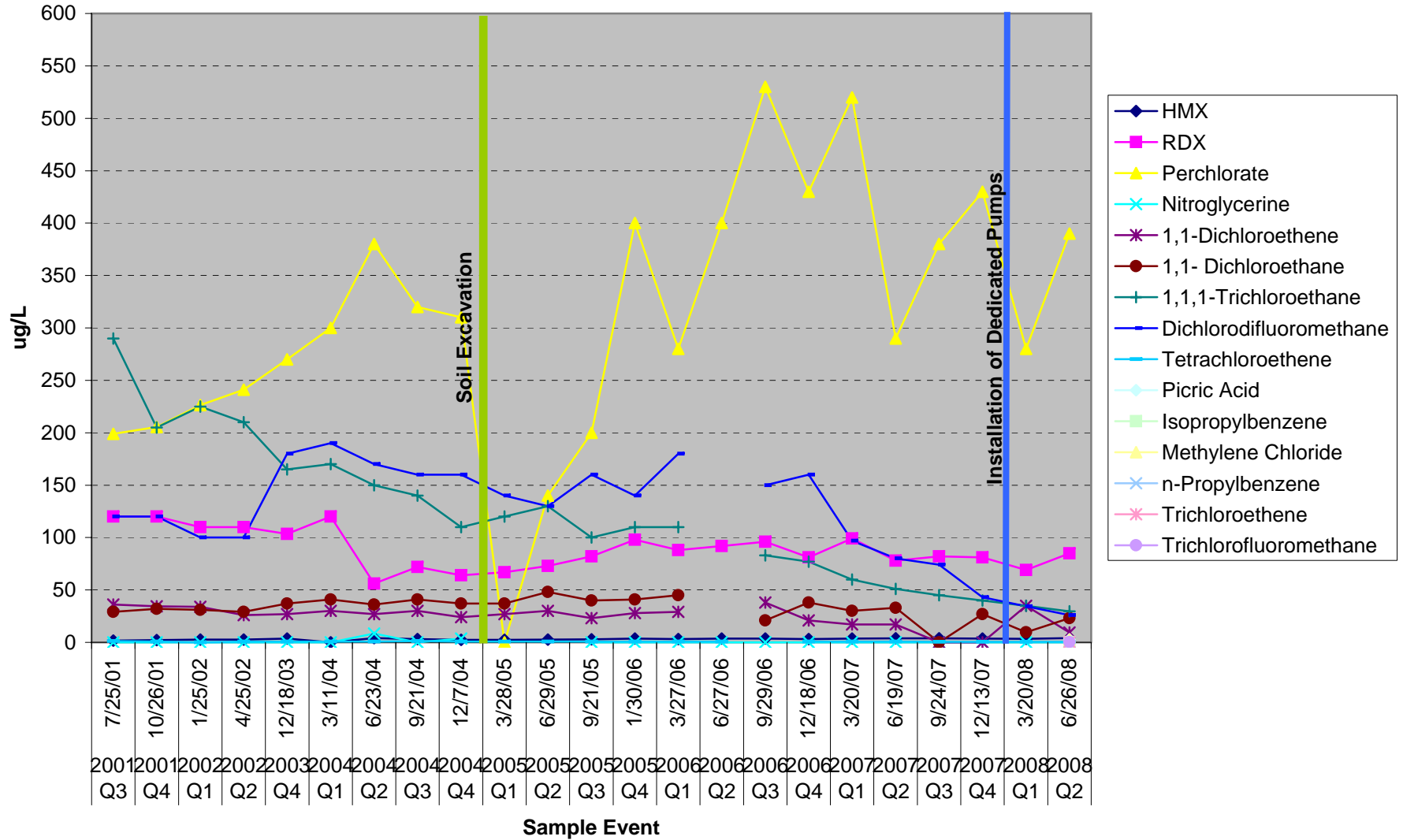
L4-MW-2A



**COMPARISON OF GROUNDWATER LEVELS
TO PERCHLORATE RESULTS
MW-2A**

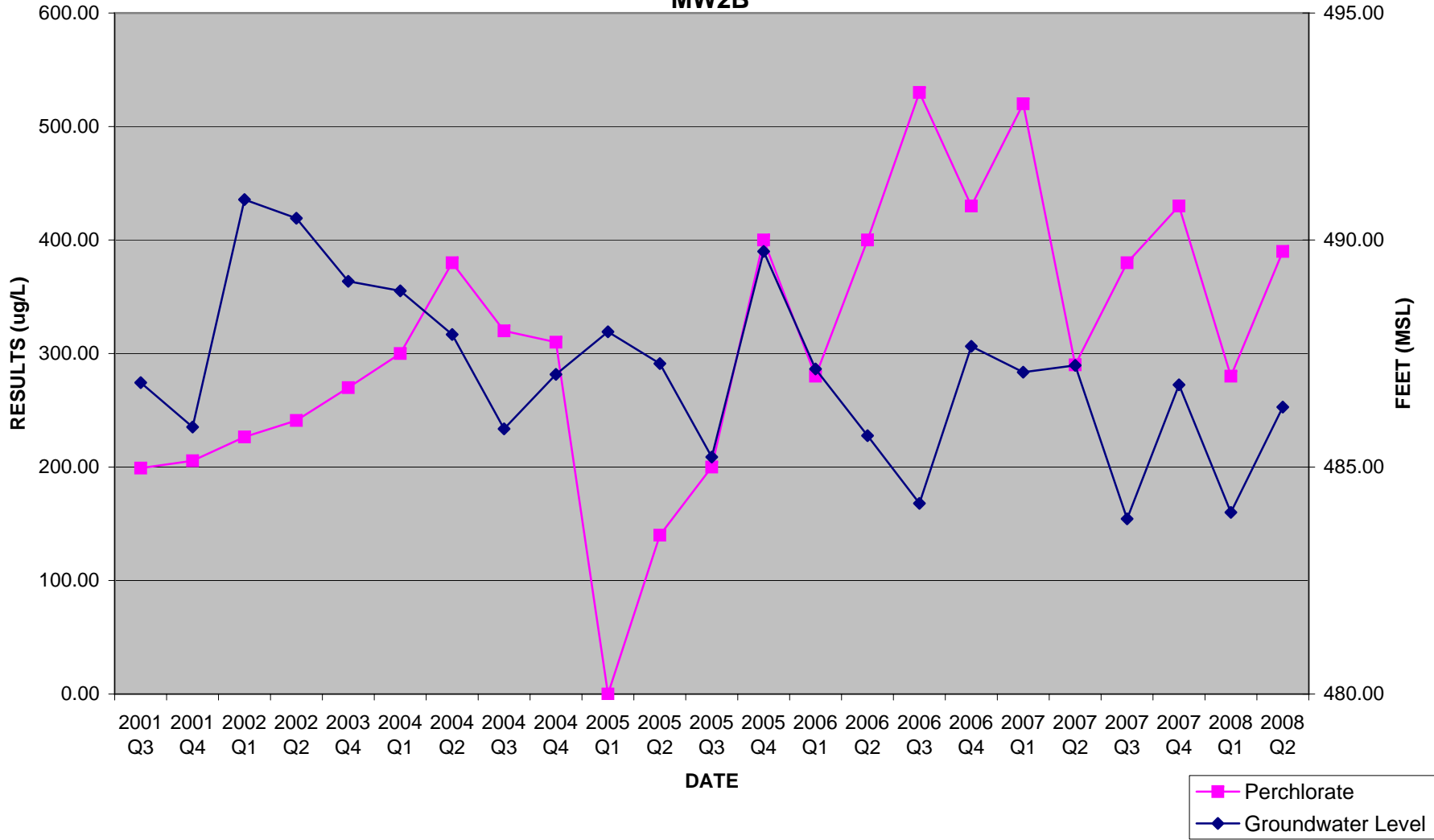


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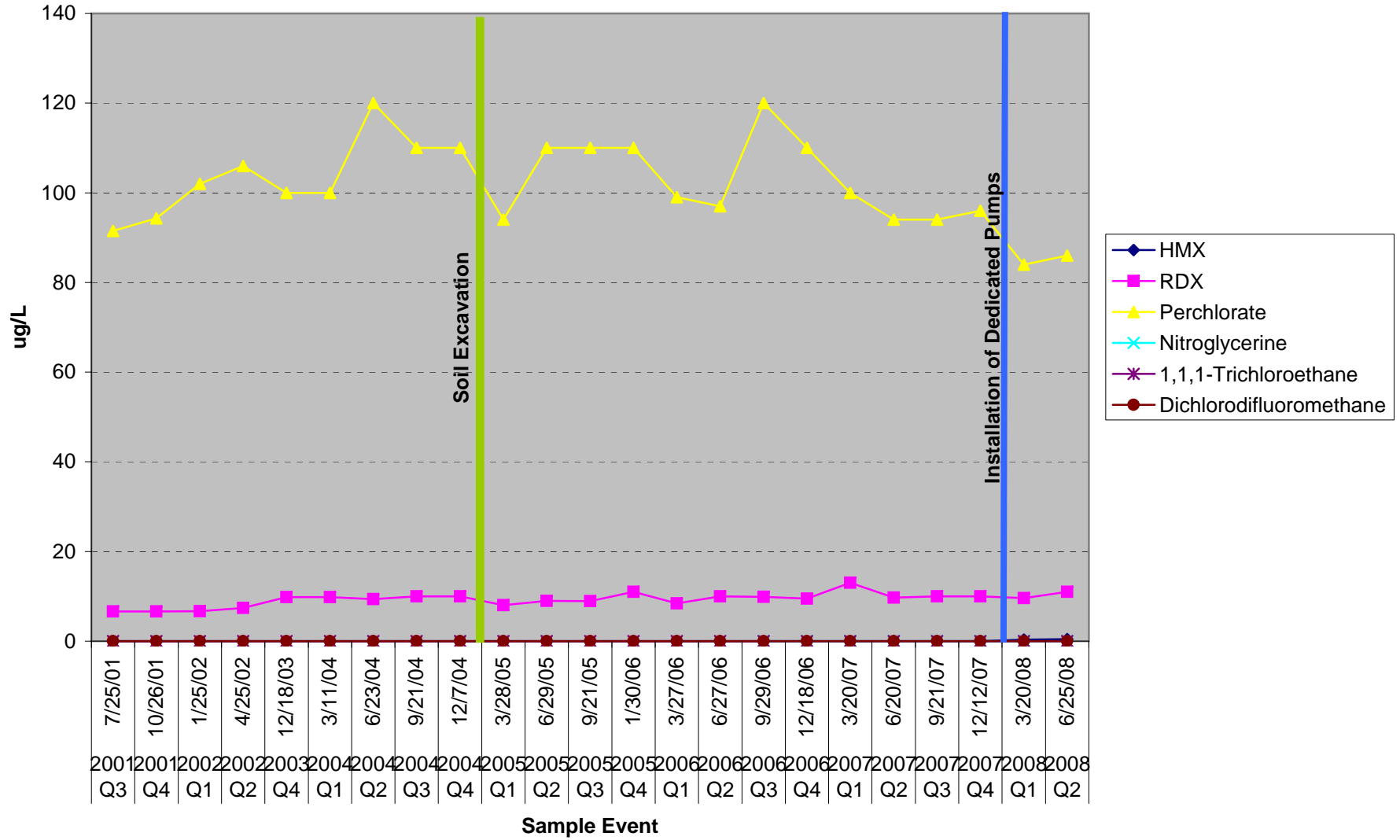


COMPARISON OF GROUNDWATER LEVELS TO PERCHORATE RESULTS

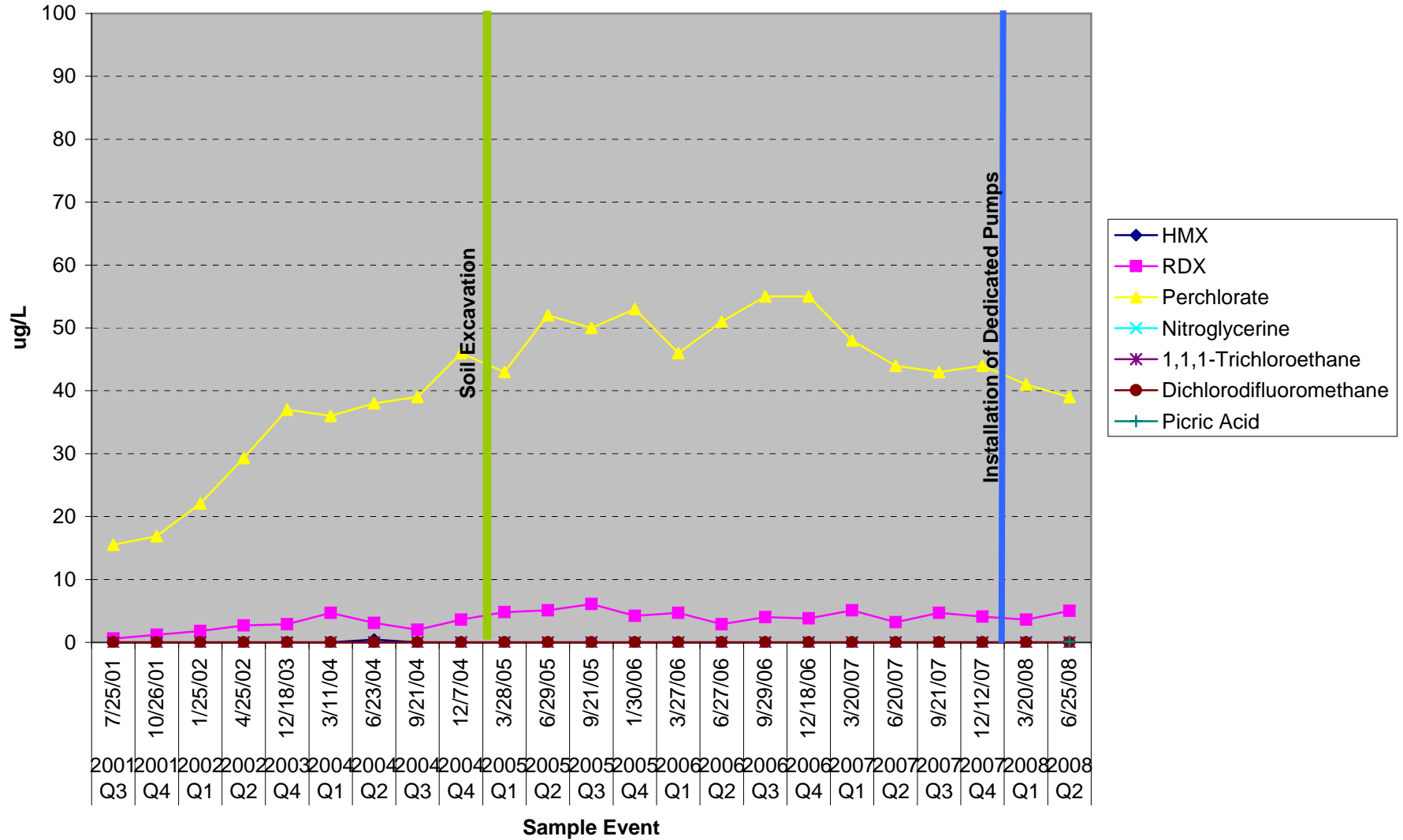
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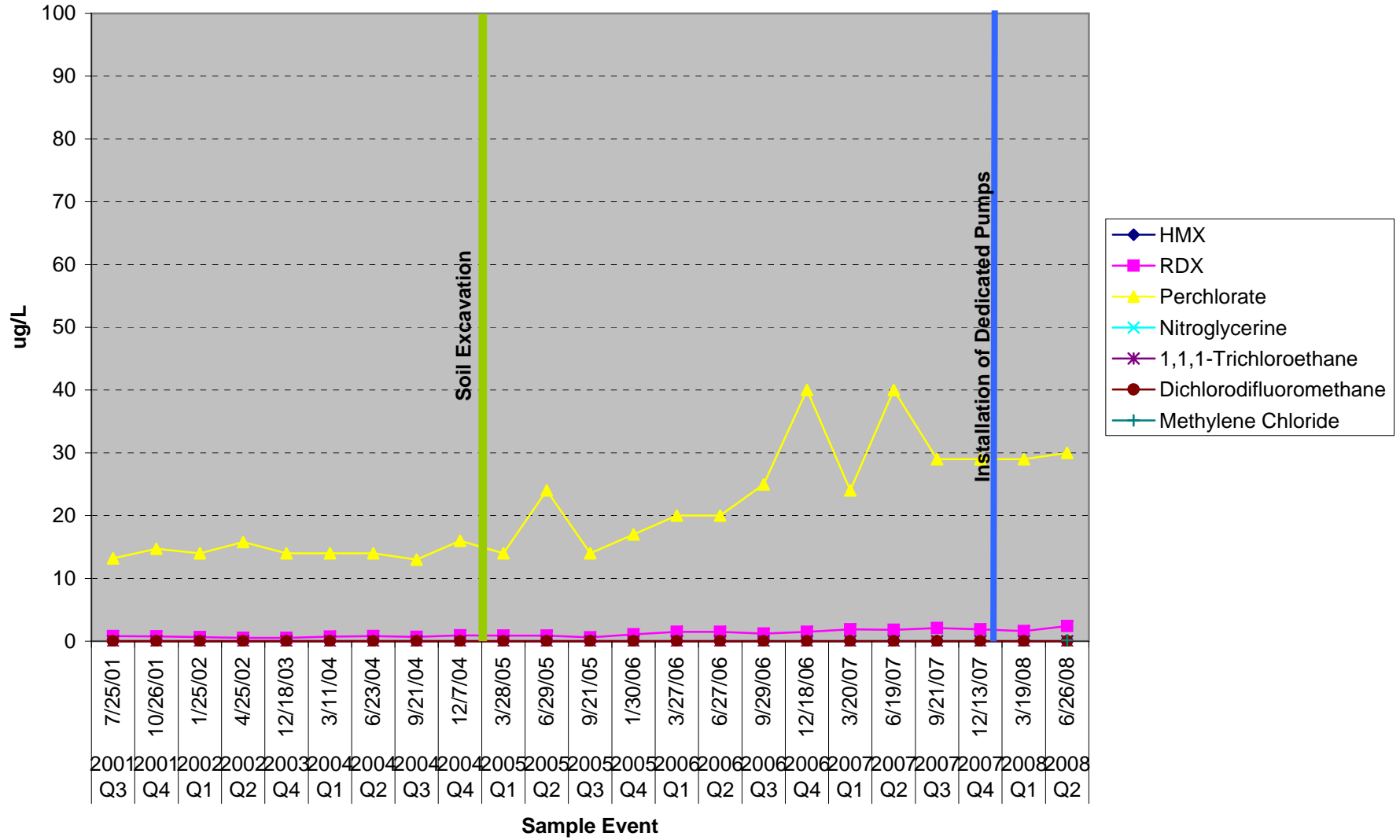
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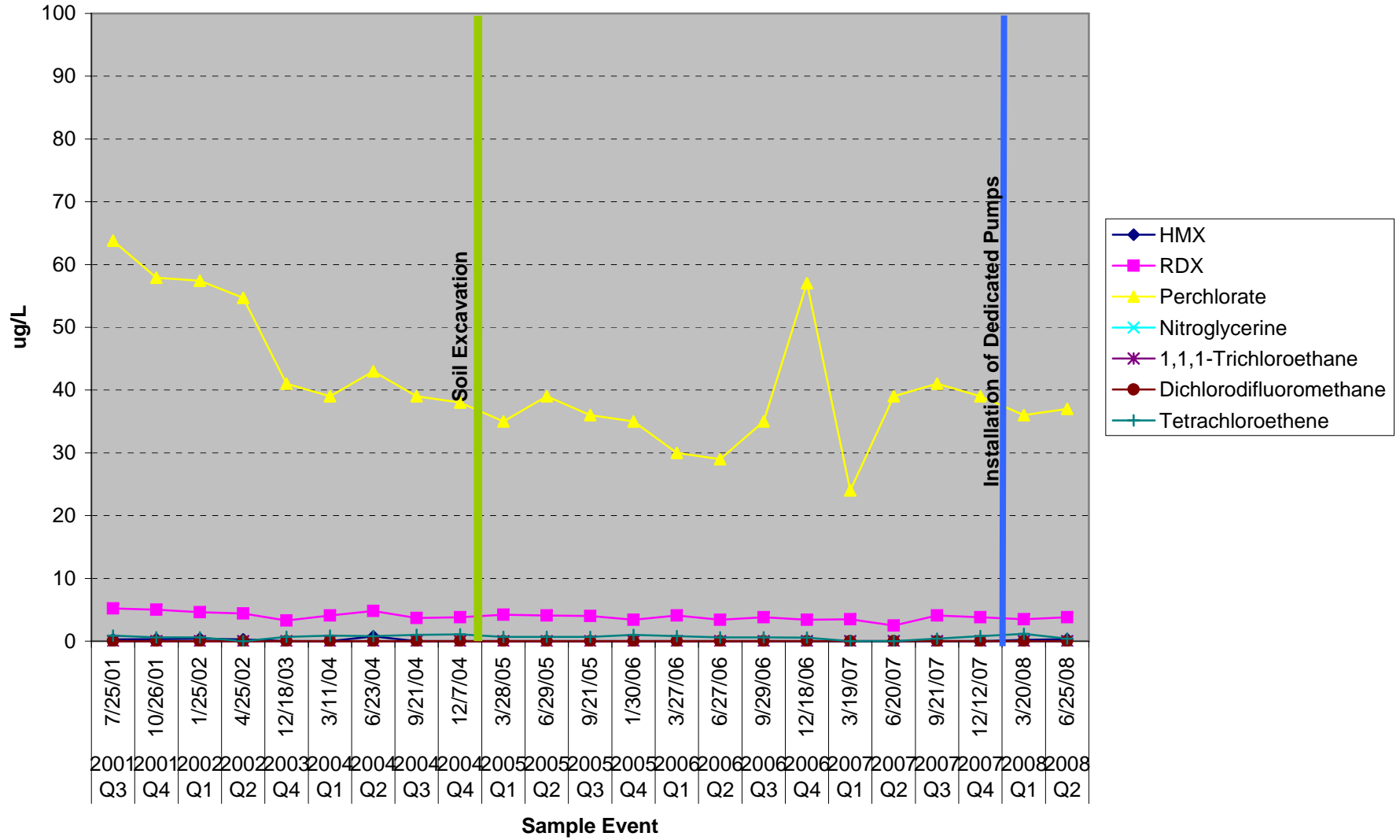
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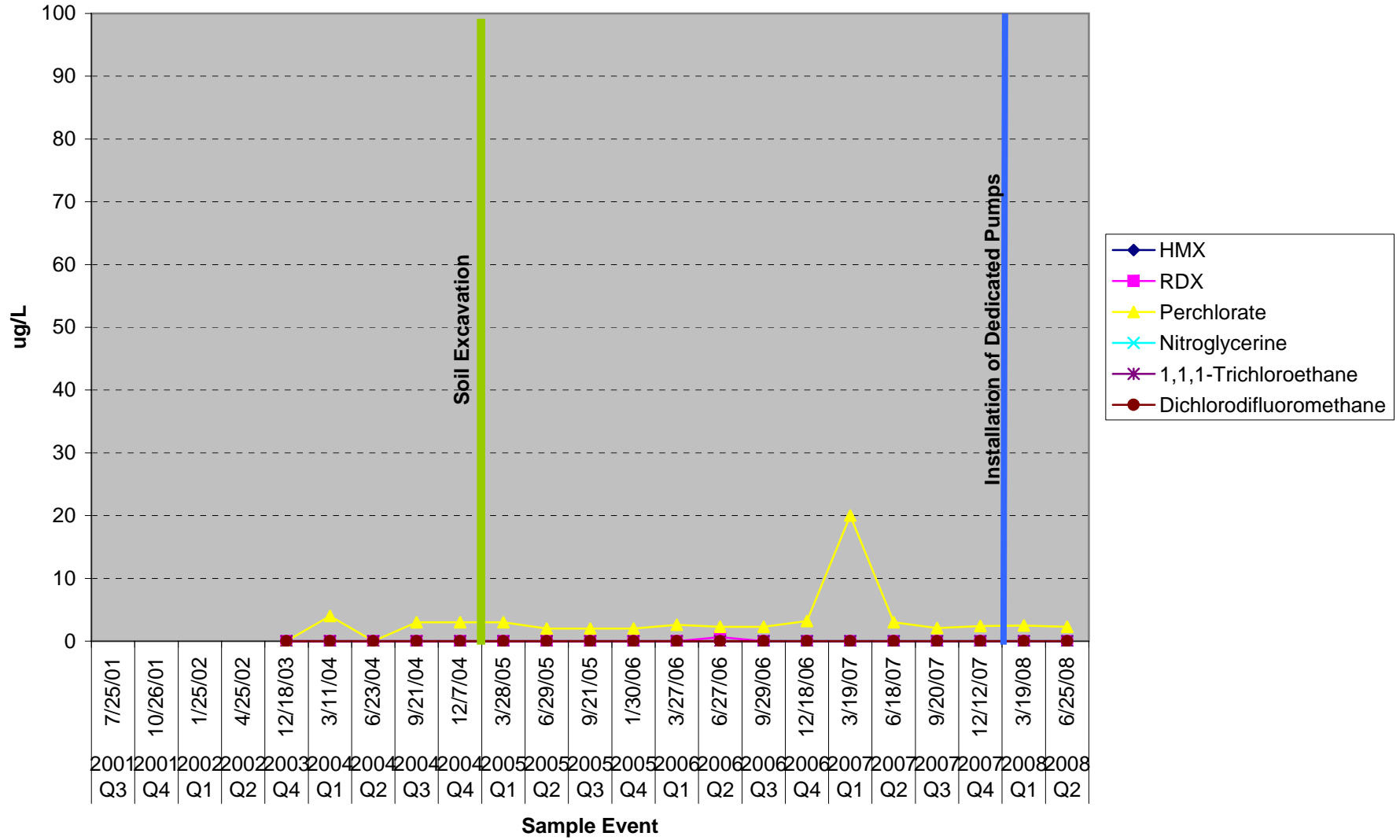
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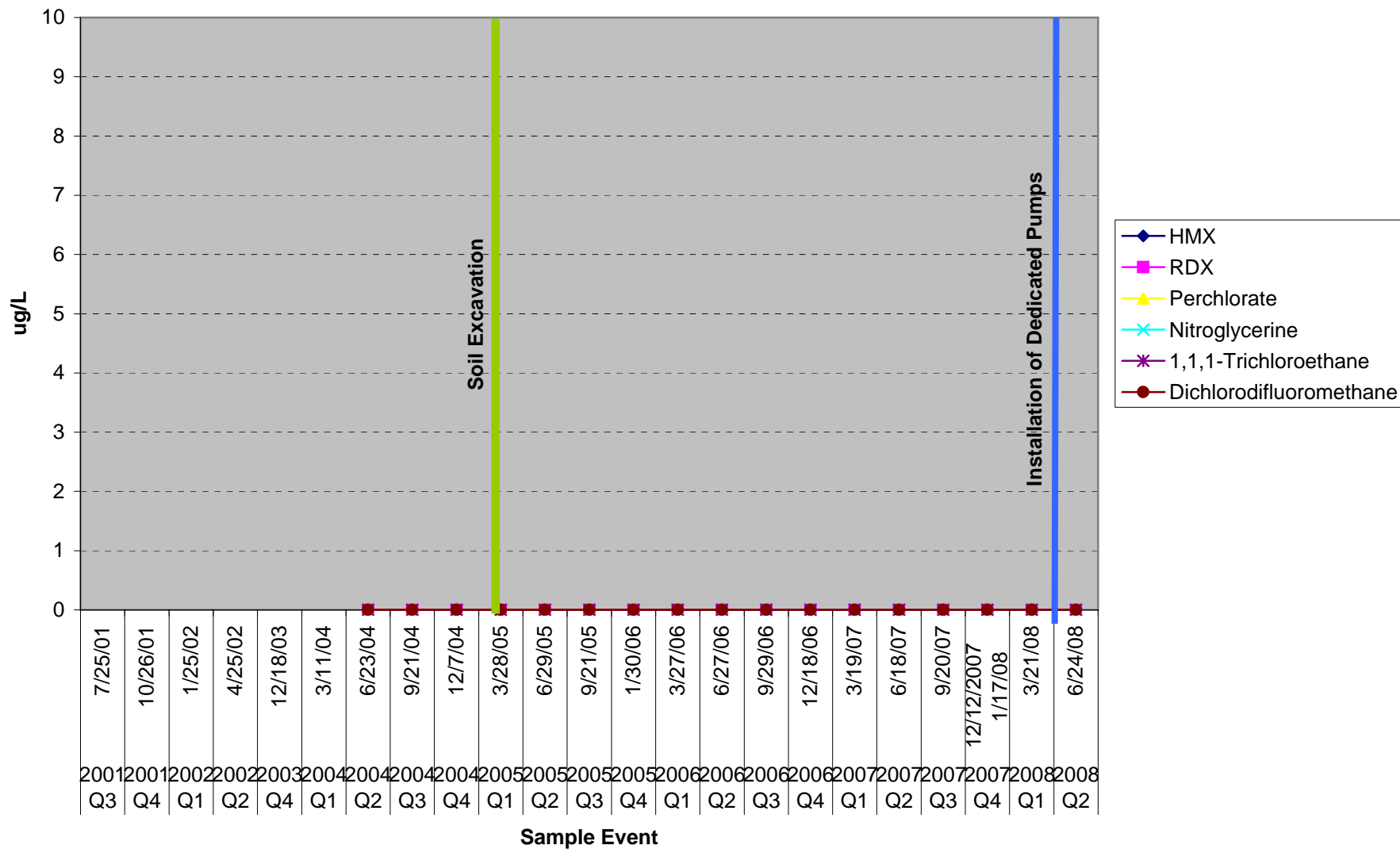
L4-MW-5A



L4-MW-7B



L4-MW-18





Engineering +
Environmental

Groundwater Sampling & Analysis Report

2nd Quarter 2008

Camp Bonneville
Vancouver, Washington

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

July 29, 2008
PBS Project No. 70489.000, Task 6213

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GROUNDWATER SAMPLING & ANALYSIS REPORT

2nd Quarter 2008

**CAMP BONNEVILLE
VANCOUVER, WASHINGTON**

Prepared for:

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

July 29, 2008

Prepared by:

PBS Engineering + Environmental
Portland, Oregon

APPROVALS & CONCURRENCES:

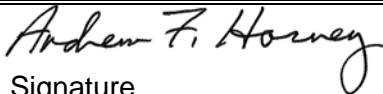
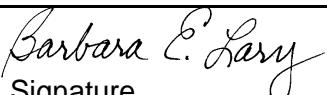
Andrew F. Harvey, L.G. PBS Project Manager	 Signature	7/29/08 Date
Barbara E. Lary, L.G. PBS QA/QC Officer	 Signature	7/29/08 Date
Jim Peyton Michael Baker Jr. Project Manager	 Signature	 Date

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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	pentaerythritol 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

1.0 INTRODUCTION

This report documents the results of groundwater sampling and analysis at two locations of monitoring well installations at Camp Bonneville. The sampling and analysis was conducted for the 2nd Quarter 2008. 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 (see 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 5, 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, Portland, Oregon, 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 were 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 deleted from the monitoring program per agreement with WDOE in 2006. The attached Figure 2 shows locations of these monitoring sites.

Investigation activities included groundwater sampling at the old landfill/demolition area and the area where Lacamas Creek exits the southwest side of the base. These investigations were conducted in general accordance with the SAP, with adjustments made in the field to accommodate site conditions. 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 2nd Quarter 2008 sampling event. Sampling for this quarter was performed from June 23 through 26, 2008. The wells were purged and sampled utilizing low-flow, minimal-drawdown procedures, as described in this report and based on procedures described in detail in the SAP (which referenced the USACE standard operating procedure, *Low-Flow Groundwater Purging and Sampling*). 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.

Previous sampling events through the 2nd Quarter of 2006 sampled a total of 27 wells in the areas listed below, with their associated Remedial Action Unit (RAU) designations. The Lacamas Creek area contains four sets of paired shallow and deep wells (eight total wells) in a north-south alignment along the base boundary (see Figure 3). Demolition Area 3 contains four shallow wells and one deep well located around the perimeter of a pond within a former blast pit. Demolition Area 2 has three wells located near the access road, a creek, and a pond. Landfill 4/Demo Area 1 has five shallow and three deep wells around the perimeter of the landfill, one deep well along North Fork Lacamas Creek downstream of the landfill, and two wells along the creek at the base of the drainage ravine (see Figure 4).

- Landfill 4/Open Burning/Demolition Area 1 (RAU 2C)
- Open Burning/Open Demolition Area 2 (RAU 2B)
- Open Burning/Open Demolition Area 3 (RAB 2B)
- Base Boundary at Lacamas Creek (Site-wide Groundwater)

Starting in the 3rd Quarter 2006 sampling event (September 2006), the monitoring wells at Demolition Area 2 and Demolition Area 3 were deleted from the sampling program. The WDOE authorized deletion of these monitoring wells on the basis of the previous quarters of sampling results showing no detections exceeding the MTCA cleanup levels for the contaminants of concern. The monitoring wells sampled since the 4th Quarter 2006 include those at Landfill 4/Demo Area 1 and the Base Boundary at Lacamas Creek, a total of 19 wells.

1.3 Report Organization

This report is organized into eight sections, with four appendices containing supporting information. A brief description of each section follows.

- **Section 1 – Introduction.** An introduction to the project, a description of the work scope and a review of the report organization is provided.
- **Section 2 – Site Background.** A description of the facility and a summary of its history are provided. The groundwater investigation reports are referenced. The groundwater sampling locations discussed in this report are presented, along with the chemicals of potential concern in groundwater.

- **Section 3 – Groundwater Sampling.** Descriptions of the field investigation, sampling techniques, and sample handling methods are provided.
- **Section 4 – Analytical Methods.** The field and laboratory analytical testing methods are presented.
- **Section 5 – Data Management and Review.** The data quality control procedures and Washington MTCA cleanup program information are presented.
- **Section 6 – Groundwater Monitoring Results.** A description of sample-collection activities performed at each site, along with a summary of the results from these activities, is provided. Contaminants detected at each site are identified and compared with screening levels.
- **Section 7 – Recent Trends in Groundwater Quality.** Analysis of the change in certain analytical results.
- **Section 8 – Data Quality Objectives.** Chemical data quality and laboratory narratives of test procedures are discussed.
- **Section 9 – References.** A list of documents used in preparation of this report is provided.
- **Appendix A – Field Parameters and Laboratory Analysis Data Tables.** Summary tables of field and laboratory analysis data, including MTCA Cleanup Levels.
- **Appendix B – TestAmerica Laboratories, Analytical Reports.** Copies of the laboratory reports are provided on CD, organized by laboratory data package.
- **Appendix C – Monitoring Well Boring Logs.** Copies of the boring logs for the groundwater monitoring wells are provided on CD.
- **Appendix D – Previous Quarterly Groundwater Monitoring Report Tables.** Previous groundwater monitoring report tables by PBS are included on the enclosed CD.

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. 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 nonmilitary units, including National Guard, Army Reserves, and U.S. Air Force and federal, state, and local law enforcement agencies. Camp Bonneville includes approximately 820 acres of land leased from the State of Washington Department of Natural Resources (DNR). The Federal Bureau of Investigation (FBI) used one firing range on the site for training until late 2006. The Camp Bonneville site location is shown on Figure 1. The general areas of groundwater investigation are shown on Figure 2.

In July of 1995, Camp Bonneville was selected for closure under the 1995 Base Realignment and Closure (BRAC) 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 840 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 (Shannon & Wilson, 1999), 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. 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 unexploded ordnance (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.

Groundwater sampling and analysis was previously conducted by consultants other than PBS on a quarterly schedule basis in 2001 and 2002 at the following sites within Camp Bonneville:

- Landfill 4/Open Burning/Demolition Area 1
- Open Burning/Open Demolition Area 2
- Open Burning/Open Demolition Area 3
- Base Boundary at Lacamas Creek

Quarterly sampling from shallow and deep monitoring wells at Landfill 4 was conducted in July and October 2001 and January and April 2002. Previous chemical analysis of groundwater samples has included explosives, perchlorate, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and fuel residues (gasoline and diesel range petroleum hydrocarbons).

Groundwater sampling was conducted by PBS, under contract to the U.S. Army BRAC Division, for the 4th Quarter 2003, 1st Quarter 2004, 2nd Quarter 2004, 3rd Quarter 2004, 4th Quarter 2004, 1st Quarter 2005, 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, 1st Quarter 2006, 2nd Quarter 2006, and 3rd Quarter 2006. A total of 25 monitoring wells were sampled during the 4th Quarter 2003 and 1st Quarter 2004 events at Landfill

4/Demolition Area 1, Demolition Area 2, Demolition Area 3, and the Base Boundary at Lacamas Creek. Two additional monitoring wells near Landfill 4/Demolition Area 1 were installed in May 2004 and added to the sampling set for subsequent quarterly monitoring events (starting in the 2nd Quarter 2004). Laboratory analyses included TPH-Gx (gasoline), TPH-Dx (diesel), VOCs, SVOCs, explosive compounds (including HMX, RDX, NG, and PETN), picric acid, perchlorate, priority pollutant metals (total and dissolved), TOC, DOC, TSS, alkalinity, and inorganic ions.

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.

PBS' final Groundwater Sampling and Analysis Reports, completed under the Army BRAC contract and listed in the References section of this report, present the results of each of the quarterly sampling events from the 4th Quarter 2003 through the 3rd Quarter 2006 sampling and analysis events. The last sampling event performed under the Army BRAC contract was for the 3rd Quarter 2006. PBS began groundwater sampling and analysis under contract to Michael Baker Jr., Inc., starting with the 4th Quarter 2006. Groundwater reports through the 1st Quarter of 2008 are listed in the references.

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 8 (Appendix A) shows the monitoring well numbers used by PBS (per the PBS-Army BRAC Contract document), Washington State Department of Ecology well tag numbers, well locations, total depth, screened interval and CHPPM well identification numbers used in former RI reports for Camp Bonneville.

The laboratory analysis results (Tables 4, 5, and 6 in Appendix A) included in this monitoring report for the 2nd Quarter 2008 are referenced to the monitoring well numbers assigned by CHPPM. The well numbers used in the PBS quarterly reports are cross-referenced to the CHPPM numbers and the WDOE well tag numbers in Table 8 (Appendix A).

2.4 Groundwater Monitoring Locations

For the 2nd Quarter 2008, 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 at these sites 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

Previous site studies have determined that the up-gradient areas of Camp Bonneville may contain exploded ordnance (EO) and unexploded ordnance (UXO). The historical uses of the up-gradient areas include firing ranges, a landfill, open burning locations, open detonation locations, and general maintenance facilities. Chemicals of potential concern in groundwater include artillery propellants, high explosives residue, missile/rocket propellants, petroleum hydrocarbons, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and metals.

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

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	<ul style="list-style-type: none"> • Artillery Propellants • HE • Missile/Rocket Propellants 	<ul style="list-style-type: none"> • TNT • RDX • PETN • PA • HMX • NG 	<ul style="list-style-type: none"> • Black Powder (nitrate) • Plasticizers • Stabilizers • AP 	<ul style="list-style-type: none"> • 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
 NG = nitroglycerine

PA = picric acid
 PETN = pentaerythritol tetranitrate
 RDX = hexahydro-1,3,5-trinitro-1,3,5-triazine (Cyclonite)
 TNT = 2,4,6-trinitrotoluene
 TPH = total petroleum hydrocarbons
 VOCs = volatile organic compounds
 SVOCs = semivolatiles organic compounds

Table 2. Analytes and Analytical Methods

Parameter	Method
Total Priority Pollutant Metals	EPA Method 6000/7000 series
Total Priority Pollutant Metals (field filtered)	EPA Method 6000/7000 series
Total and dissolved mercury	EPA Method 7470A
VOCs plus TICs	EPA Method 8260B
SVOCs plus TICs	EPA Method 8270C
TPH Gasoline Range	NWTPH-Gx
TPH Diesel Range	NWTPH-Dx
Total Suspended Solids	EPA Method 160.2
Carbonate and Bicarbonate	SM 2320B
Inorganic Ions (Sulfate, Nitrite + Nitrate, Chloride)	EPA Method 300.0. 353.2
Total Organic Carbon (TOC)	EPA Method 415.1
Dissolved Organic Carbon (field filtered)	EPA Method 415.1
Ordnance Compounds	Method
Explosive Residues (HMX, RDX)	SW846 8330
PETN/Picric Acid/Nitroglycerine	SW846 8330
Ammonium Perchlorate	EPA-DW1 314.0

Notes:
 NWTPH = Northwest Total Petroleum Hydrocarbon
 PETN = Pentaerythritol tetranitrate
 SVOC = Semivolatiles organic compound
 TPH = Total petroleum hydrocarbon
 TICs = Tentatively identified compounds

Table 3. Sample Analytical Methods, Containers, Preservation, and Holding Times

Measurement	Minimum Sample Volume	Container	Preservative cool to 4° C, plus	Holding Time
Mercury (total and dissolved)	100 ml	Included with 1 L. HDPE container	HNO ₃ to pH <2 Filtered for dissolved	28 days
Metals (total and dissolved)	200 ml	(2) 1 L. HDPE	HNO ₃ to pH <2 Filtered for dissolved	6 months
Total Suspended Solids	500 ml	1 L. HDPE	No additional	7 days
VOCs plus TICs	(6) 40 ml	40 ml VOA vial (6)	HCl pH<2	14 days
SVOCs plus TICs	(2) 1,000 ml	1L. AG (2)	No additional	7 days to extraction 40 days to analysis
TPH Gasoline Range	(3) 40 ml	40 ml VOA vial (3)	HCl pH<2	14 days
TPH Diesel Range	1,000 ml	1L Amber glass	HCl pH<2	14 days
Total Organic Carbon and Nitrate	500ml	500 ml Amber glass	H ₂ SO ₄ pH<2	28 days for TOC, 48 hours for Nitrate
Dissolved Organic Carbon	250 ml	250 mL Amber	H ₂ SO ₄ pH<2 -Filtered	28 days
Carbonate & Bicarbonate	100 ml	1 L. HDPE	No additional	14 days
Inorganic Ions	50 ml	1 L. HDPE	No additional	48-hr for nitrite; 28 days for others
Picric Acid		1L Amber glass	No additional	
Perchlorate	500 ml	500 ml HDPE	No additional	14 days
Explosives	500 ml	(2) 1L Amber glass	No additional	7 days to extraction, 40 days after extraction

Notes:

HDPE = High Density Polyethylene Bottles with Teflon lined screw cap

AG = Amber glass bottle with Teflon lined screw cap

VOA vial = Vial with a screw cap with a hole in the center sealed with a TFE-faced silicone septum

ml = milliliters

3.0 GROUNDWATER SAMPLING

PBS conducted groundwater sampling for the 2nd Quarter 2008 event at 19 existing monitoring wells at two locations within Camp Bonneville. Monitoring wells were sampled during the period of June 23 through 26, 2008. The monitoring wells were sampled in accordance with the procedures established in the Draft Groundwater Sampling and Analysis Plan (SAP), dated October 31, 2006, and revised September 5, 2007. The 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 from 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.

3.1 Well Depth and Static Water Level Measurement

The static groundwater level was measured in each monitoring well using an electronic water-level indicator prior to purging and sampling activities. During purging and groundwater sample collection, the water level in the well was monitored to determine drawdown conditions. Initial groundwater level measurements are presented in Table 7 (Appendix A).

Water level depths were measured to the reference mark on the rim of the PVC monitoring well casings. The measurement was recorded on the Groundwater Sampling Field Form to the nearest 0.01 foot.

3.2 Low-Flow Purging

A low-flow, minimal-drawdown technique was used for groundwater purging and sampling. This technique is described below and in the 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.

Purging and sampling were performed using dedicated Solinst bladder pumps constructed out of PVC body and a Teflon bladder. The pumps are approximately 2-feet long and 1.5 inches in diameter. These pumps were set approximately in the middle of the wetted screen. On wells with low water levels in the summer, the pumps were set approximately 2 feet from the bottom of the well. LDPE hosing is attached to the top of the pump and the underside of a well cap, placed at the top of the PVC well casing. Fittings on the well cap allow an air source to be connected, sample tubing to extend to the flow cell or sample bottle, and an opening to place a depth-to-water meter probe. A small air compressor, powered by a car battery, was used through a QED MP10 control box to regulate the amount of air and to set the charge and recharge cycles of the pump. Air is pushed through the tubing and compresses the bladder for a period of time, pushing water up the sample tubing. When the air pressure is released, water enters the pump and refills the tubing. The length of cycles of pushing air through, water out, and then waiting for water to re-enter the pump can be adjusted, as needed. Each monitoring well was purged immediately before sample collection, at a rate that minimizes drawdown, so that the groundwater sample represented formation water rather than stagnant water that had accumulated in the well casing.

Groundwater was purged through a YSI Model 556 water quality meter installed in a flow-through cell to measure specific conductance, temperature, pH, oxidation-reduction potential (ORP), and dissolved oxygen during purging. Once parameters and water level had stabilized, a groundwater sample was collected. The purge water was transported

back to an on-site central drum storage area and transferred to 55-gallon drums at the end of each day.

Water quality measurements made during purging were recorded on a Groundwater Sampling Field Form at intervals ranging from 1 to 5 minutes. Purging was stopped, and groundwater samples collected, when readings stabilized over at least three consecutive measurements and a minimum of 3 gallons were pumped from the well. Stabilization was considered reached when three consecutive readings were within ± 0.3 for pH, $\pm 1^\circ$ C for temperature, ± 10 percent for specific conductance, ± 10 mV for ORP, and ± 0.5 mg/L for DO.

3.3 Sample Collection

Samples that did not require filtering 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. Sample container types, preservation techniques, and holding times for the chemical analyses are presented in Table 3.

Samples collected for dissolved metals' analysis and dissolved oxygen content (DOC) were field-filtered. An in-line, nitrocellulose, 0.45-micron cartridge filter was attached to the sample-discharge line. Groundwater was rinsed through the filter prior to filling the sample bottle. The sample bottle was then filled directly from the discharge outlet on the filter.

3.4 Decontamination Procedures

The objective of dedicated pumps is to eliminate the need for decontamination procedures and reduce the chance of cross-contamination. Sample jars in factory-sealed containers do not require decontamination.

Non-dedicated sampling equipment (water level meter) was decontaminated between sample locations by rinsing with organic-free deionized water. Decontamination wash water was placed in 55-gallon drums for later disposal in accordance with the SAP.

Water quality parameter meter sensors were rinsed with deionized water. These sensors do not typically contact sample water or enter wells; therefore, decontamination is primarily for protecting the meter and for obtaining accurate measurements.

3.5 Investigation-Derived Waste

Investigation-derived waste (IDW) generated during well purging and sampling includes purged groundwater which has the potential to be contaminated with low levels of COPC. The purge water IDW was placed in 55-gallon drums on-site pending laboratory results of groundwater samples. Solid IDW (filters, plastic, and paper) was disposed in trash bins on-site.

3.6 Sample Numbering, Handling, and Documentation

Each sample collected was assigned a unique sample identification number, referenced to the monitoring well location. As an example, 19LCMW01SW represents a sample taken during the nineteenth quarterly sampling event (19) performed by PBS (samples collected in June 2008) from Monitoring Well LC-MW01S at Lacamas Creek, which was a groundwater sample (W). The QC field duplicate sample was identified with fictitious location numbers related to the primary sample number and recorded in the field logbook and field sheet. No indication that a sample is a duplicate was provided on the sample label or chain-of-custody form. The sample to be used for matrix spike/matrix spike duplicate (MS/MSD) was specified in the comments section of the chain-of-custody. Field notes pertaining to sample collection were recorded in a permanently bound field logbook and groundwater field sheets, both on waterproof paper.

Groundwater samples were collected in the appropriate sample containers and placed in a cooler immediately upon sample collection. The cooler contained ice to maintain the approximate temperature of 4° C. Along with samples and ice, a temperature blank provided by the laboratory was placed in each cooler. Each day, one cooler contained a trip blank and all VOC samples. The samples collected each day were left at PBS' Vancouver office and picked up the following day by TestAmerica.

Sample labels on the sample containers included the following information:

- PBS project number
- Sample identification number
- Date and time of sampling
- Initials of sampling personnel
- Analyses to be performed
- Type of preservative added

3.7 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 ANALYTICAL METHODS

Field measurements were obtained for pH, specific conductance, temperature, ORP, and dissolved oxygen in groundwater samples using a YSI Model 556 water quality meter. Turbidity was measured during sampling using an HF Scientific MicroTPW turbidity meter. During purging, color and turbidity were visually observed and noted. Analytical data were obtained by TestAmerica using standard, documented procedures in order to provide defensible data on contaminant characterization and contamination levels relative to appropriate regulatory and risk-based criteria. Specific laboratory analysis methods are presented in Table 2.

The specific analytical methodologies, along with the associated project-specified method detection limits (MDL), are presented in the QAPP. The MDLs are based on minimum detection levels that can be expected to be achieved reliably by the project analytical laboratories using the methodologies specified. As discussed in the QAPP, some of the analytical methodologies cannot achieve risk-based or cleanup goals for all analytes. Therefore, the analytical

methodologies were selected to attain detection or quantitation limits that approach or achieve the risk-based goals for chemicals most likely to be present, with a secondary emphasis on approaching or achieving these goals for the maximum number of other possible contaminants. Analytical results falling between the method detection limit and the project-specified reporting limit have been reported and flagged as estimated values (J-flagged) on laboratory analysis data tables (Appendix A) and the laboratory report sheets (Appendix B).

5.0 DATA MANAGEMENT AND REVIEW

The laboratory data quality was evaluated before use according to the procedures described in the QAPP. The analytical results for total priority pollutant metals, SVOCs, TPH-Gx (gasoline), TPH-Dx (diesel), explosive compounds (including HMX, RDX, NG, and PETN), picric acid, perchlorate, TOC, DOC, TSS, alkalinity, and inorganic ions are presented in Table 4 (Appendix A). Analytical results for dissolved metals from field filtered groundwater samples are presented in Table 5 (Appendix A). Specific VOCs and SVOCs detected above the laboratory MDLs are presented in Table 6 (Appendix A).

The analytical tables include the State of Washington MTCA levels for comparison with regulatory and risk-based criteria. MTCA Method A cleanup level values for groundwater were obtained from the MTCA Cleanup Regulation, Chapter 173-340 of the Washington Administrative Code (WAC) (WDOE, 2001). These cleanup levels are not site specific and are applicable to sites undergoing routine cleanup actions, as defined in MTCA. MTCA Method B risk-based concentrations for groundwater were obtained from the MTCA Method B levels presented in the *Volume 1, Multi-Sites Investigation Report for Camp Bonneville* (Shannon & Wilson, 1999). The MTCA Method B values are based on a Risk Calculations (CLARC) II database (based on a 10^{-6} cancer risk or a hazard quotient of 1) (WDOE, 1996; WDOE, 2001) and are derived from formula values obtained from the February 1996 CLARC II Update (WDOE, 1996).

6.0 GROUNDWATER MONITORING RESULTS

6.1 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 June 23 and 24, 2008. Paired shallow (S) and deep (D) monitoring well samples consisted of Monitoring Wells LCMW01SW and LCMW01DW; LCMW02SW and LCMW02DW; LCMW03SW and LCMW03DW; and LCMW04SW and LCMW04DW. A field duplicate sample (labeled LCMW460W) was collected from Monitoring Well LCMW03S on June 24, 2008. Extra volume of groundwater was collected from Monitoring Well LCMW04S for the purpose of supplying extra water for laboratory MS/MSD samples.

Water level depths in the wells ranged from 5.38 to 6.67-feet below the top of the PVC well casings. These represent water elevations in the wells ranging from 284.64 to 286.04 feet mean sea level (MSL).

All samples were analyzed for TPH-Gx (gasoline), TPH-Dx (diesel), VOCs, SVOCs, explosive compounds (including HMX, RDX, NG, and PETN), picric acid, perchlorate, priority pollutant metals (total and dissolved), TOC, DOC, TSS, alkalinity, and inorganic ions. The laboratory analytical results are presented in Tables 4, 5, and 6. Groundwater field parameters (i.e., pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity) recorded at the time of sampling are presented in Table 7.

The VOCs were not detected in any of the Base Boundary wells. The laboratory inadvertently omitted the analysis of the trip blanks submitted for the first two days of sampling. The VOC samples results from these two days were all non-detect and did not require qualification for potential contamination introduced during transport; therefore, this omission does not affect either the quality or use of this data.

No diesel, oil, or gasoline range petroleum hydrocarbons were detected in any of the Base Boundary groundwater samples. Explosive compounds, nitroglycerine, PETN, and picric acid were not detected in any of the groundwater samples. Perchlorate was not detected above the laboratory detection limit of 1 µg/L in any of the groundwater samples from the Base Boundary monitoring wells.

Total Organic Carbon and DOC concentrations were below laboratory reporting limit (MRL) of 1.0 mg/L in all monitoring well groundwater samples. Total Suspended Solids were below the MRL of 1 mg/L in all samples except for Monitoring Well LCMW-04D where it was 1 mg/L. Bicarbonate alkalinity in the groundwater samples ranged from 41.8 to 52 mg/L. Inorganic ions consisting of chloride (1.26 to 2.66 mg/L), sulfate (0.38 to 1.7 mg/L), and nitrate (0.101 to 1.1 mg/L) were detected. Nitrites were not detected in any of the groundwater samples.

Arsenic, chromium, copper, nickel, and zinc all were detected in one or more of the unfiltered (total metals) groundwater samples from the Lacamas Creek – Base Boundary monitoring wells (Table 4). Most of the concentrations are estimated—except the copper concentration at Monitoring Well LCMW04D (1.13 µg/L). The rest are below the MRL but above the MDL, therefore, these are estimated concentrations. This is a decrease from previous sampling events in the number of total metals detected.

Arsenic, cadmium, copper, nickel, and zinc were detected in one or more of the filtered (dissolved metals) groundwater samples from the Lacamas Creek – Base Boundary monitoring wells (Table 5). All of the concentrations reported are estimated (since they were below the MRL but detected above the MDL). No total or dissolved metals were detected at concentrations above MTCA Method A regulatory screening levels in samples from the Base Boundary monitoring wells.

Laboratory analysis results for duplicate sample LCMW460W were consistent with the concentrations in the original sample LCMW03SW, with the exception of dissolved cadmium and dissolved nickel detected in the duplicate sample but not in the original sample. Since the concentration reported for the duplicate was estimated (below the MRL), it is excluded for relative percent difference (RDP) comparisons.

6.2 Landfill 4/Demolition Area 1

Groundwater samples were collected from monitoring wells at Landfill 4/Demolition Area 1 (Figure 4) on June 24 through 26, 2008. Sample shallow (A) and deep (B) well pair numbers consisted of: L4MW01AW and L4MW01BW; L4MW02AW and L4MW02BW; L4MW03AW and L4MW03BW. Samples from individual monitoring wells consisted of: L4MW04AW, L4MW05AW, L4MW07BW, L4MW17W, and L4MW18W. A field duplicate sample (labeled L4MW465W) was collected from Monitoring Well L4MW03A on June 25, 2008.

Water level depths in the wells around the perimeter of the landfill ranged from 13.33 to 32.14-feet below the top of the PVC well casings. These represent water elevations in

the wells ranging from 484.06 to 516.24-feet MSL. The water level in the monitoring well located downstream of the landfill (Monitoring Well L4MW07B) was 39.67-feet below the top of the PVC well casing (441.13 feet MSL). 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 10.63 feet in Monitoring Well L4MW17 and 12.66 feet in Monitoring Well L4MW18 (350.85 feet and 350.18 feet MSL, respectively).

All samples were analyzed for VOCs, explosive compounds (including HMX, RDX, NG, and PETN), and perchlorate. The laboratory analytical results are presented in Tables 4 and 6 (Appendix A). Groundwater field parameters (i.e., pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity) recorded at the time of sampling are presented in Table 7 (Appendix A).

PETN and nitroglycerin were not detected in any of the groundwater samples from shallow or deep monitoring wells. No explosive compounds (HMX and RDX) were detected in Monitoring Wells L4MW01B, L4MW07B, L4MW17, and L4MW18. HMX was detected in Monitoring Wells L4MW02A (3.4 µg/L), L4MW02B (4.1 µg/L), and L4MW03AW (0.47µg/L); HMX was detected in one other monitoring well (L4MW05AW) but only at estimated concentrations. RDX was detected in Monitoring Wells L4MW01A (0.12 µg/L), L4MW02A (20 µg/L), L4MW02B (85 µg/L), L4MW03A (11 µg/L), L4MW03B (5 µg/L), L4MW04A (2.4 µg/L), and L4MW05A (3.8 µg/L); other wells did not have detectable RDX.

Perchlorate was detected in groundwater samples from Monitoring Wells L4MW01A (2 µg/L), L4MW02A (160 µg/L), L4MW02B (390 µg/L), L4MW03A (86 µg/L), L4MW03B (39 µg/L), L4MW04A (30 µg/L), L4MW05A (37 µg/L), and L4MW07B (2.3 µg/L). No perchlorate was detected above the laboratory detection limit of 1 µg/L in groundwater from Monitoring Wells L4MW01B, L4MW17, and L4MW18. The highest levels of HMX, RDX, and perchlorate were found in the groundwater samples from the paired Monitoring Wells L4MW02A and L4MW02B.

VOCs were detected at very low levels in Landfill 4 Monitoring Wells MW-02B, MW-04A, and MW-05A. The concentrations were predominantly estimated (above the MDL but below the MRL). Two VOC compounds were detected at Monitoring Well MW-17, but both were estimated values. At Monitoring Well MW-02B, concentrations of 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, and dichlorodifluoromethane were all detected, although below applicable MTCA Method A regulatory screening values. A tentatively identified compound was also identified at Monitoring Well MW-02B as Freon 113 at 59.1 µg/L.

Total and dissolved metals and SVOCs were removed from the LF4/DA1 monitoring parameters per the WDOE in 2006.

Laboratory analysis results for duplicate sample L4MW465W were consistent with the concentrations in the original sample L4MW03AW. There were no differences that exceeded and RPD of 20 percent between the two samples.

7.0 RECENT TRENDS IN WATER QUALITY DATA

The laboratory results for the groundwater parameters were compared for the 2nd Quarter 2008 event and the six previous quarterly sampling events. These sampling quarters covered sampling periods of December 2006, March 2007, June 2006, September 2007, December 2007, and March 2008 and encompass the range of seasonal climatic (rainfall and temperature) and groundwater level conditions at the monitoring well sites. Groundwater parameter data which show significant (at least one order of magnitude) difference over these sampling events are listed below.

Metals; Lacamas Creek/Boundary (metals are not included in the Landfill 4/Demolition Area 1 sampling)

- The number of total and dissolved metals detected and concentrations have decreased, most to below detection limits. All of the dissolved concentrations detected are below the MRL. Only one total metal (copper at MW02S) was detected above the MRL. These results are attributable to the installation of dedicated pumps, low-flow purging, and sampling techniques. The dedicated bladder pumps are able to obtain much less turbid samples which decreased the total and dissolved metal concentrations.

Petroleum Hydrocarbons

- Diesel range petroleum hydrocarbons were detected in the Lacamas Creek Monitoring Well LCMW02DW at 0.15 mg/L in January 2006 but have not been detected during subsequent sampling events.

Perchlorate

- Perchlorate increased in Landfill 4/Demolition Area 1 Monitoring Wells L4MW02A and L4MW02B, while it decreased slightly at Monitoring Well L4MW01A.
- Perchlorate remained about the same concentration at Monitoring Wells L4MW03A, L4MW03B, L4MW04A, L4MW05A, and L4MW07B.
- Perchlorate was not detected in Landfill 4/Demolition Area 1 Monitoring Wells L4MW01A, L4MW17, and L4MW18 above the MRL of 1µg /L.

Explosives

- HMX and RDX concentrations are relatively consistent through the recent sampling events.

8.0 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.

8.1 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, $\pm 1^\circ$ C for temperature, ± 10 percent for specific conductance, ± 10 mV for ORP, and ± 0.5 mg/L for DO.

8.2 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 June 23, 24, 25, and 26, 2008. The laboratory did not analyze the trip blanks for June 23 and 24, 2008. The trip blanks for June 25 and 26, 2008, were analyzed for VOCs. Only the trip blank for June 25, 2008, had a detectable VOC compound. Methylene chloride had an estimated concentration of 0.18 ug/L. The groundwater samples associated with this trip blank did not have any detectable concentrations of methylene chloride. However, there were estimated concentrations of methylene chloride in two samples (Monitoring Wells MW-02B and MW-04A) collected on June 26, 2008. Methylene chloride is a common laboratory contaminant and has not been previously reported at the site.

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.

The duplicate sample LCMW460W (Lacamas Creek Base Boundary area) and the source LCMW-03S show good duplication for all analytes. Total chromium was detected in the duplicate at a concentration below the PQL (MRL) of 2.00 mg/L. Since the absolute difference is below the PQL, it is not used in the calculation of a RPD. Dissolved cadmium was detected in the duplicate sample at an estimated concentration below the PQL but not in the source sample. In the case of the dissolved metals, the absolute differences are less than the PQL or MRL for the analyte and, therefore, acceptable.

Duplicate sample 18L4MW465W (Landfill 4/Demolition Area 1) and the source sample L4MW03A had no differences in analytical results—except in the HMX results which had an RPD of 16 percent. Since this is below the 20 percent criteria, this is acceptable.

8.3 Laboratory Analysis Chemical Data Quality

The analytical data quality evaluations performed by TestAmerica are presented in Appendix B with the analysis summary reports for the specific tests. Case narratives

describing sample receipt, identification, and general comments by laboratory personnel are included in Appendix B preceding the copies of the chain-of-custody forms.

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.

MS/MSD duplicate analyses were performed on sample LCMW04S. 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 B.

- The total metals' analyses had a lead detection in the laboratory blank. Since there was no detection of total lead in any of the project samples, this does not appear to affect the data. Also, total antimony and total selenium were outside the limits on the laboratory duplicate; but since other laboratory QC samples indicate that the equipment was operating within specifications, and neither analyte was detected in the project samples, this does not impact the data. Total beryllium did not meet the recovery specifications in the matrix spike duplicate. Since this analyte was not detected in any of the project samples, this does not appear to affect the data.
- For the explosives testing (SW846 8330), HMX and 2,6-Dinitrotoluene were just above the recovery limits for the Matrix Spike. Since other QC tests indicate that the method and instrumentation was performed within limits, this discrepancy does not appear to affect the project data.
- VOC laboratory blank (8070229-BLK1) had estimated detections of methylene chloride, naphthalene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene. This laboratory blank is associated with PRF0965 where none of the samples had detections of any VOC compounds. The trip blank for this batch had an estimated detection of methylene chloride. This does not impact the analytical project results.

8.4 Deviations to Standard Procedures

During the groundwater sampling event for the 2nd Quarter 2008, the deviations from standard procedures of the SAP included the use of dedicated pumps in each of the wells and eliminating the equipment blank. These procedures are described above in Section 3.0.

9.0 REFERENCES

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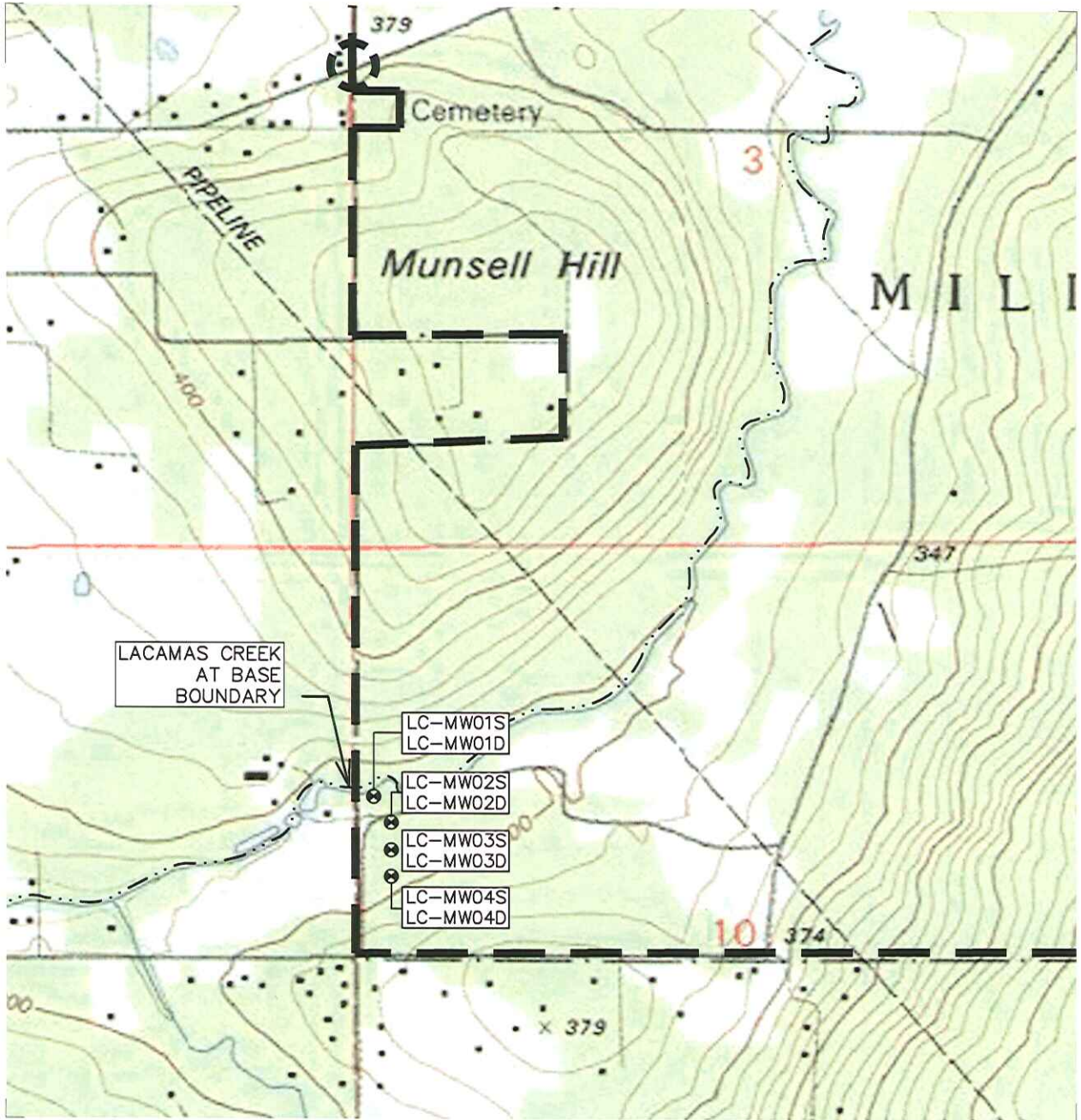
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FIGURES

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LEGEND

- ⊙ LC-MW04S MONITORING WELL AND WELL NUMBER
- ⊙ LC-MW04D
- · — · — LACAMAS CREEK
- — — — — BASE BOUNDARY



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 Task #: 6209
 Date: JAN. 2008

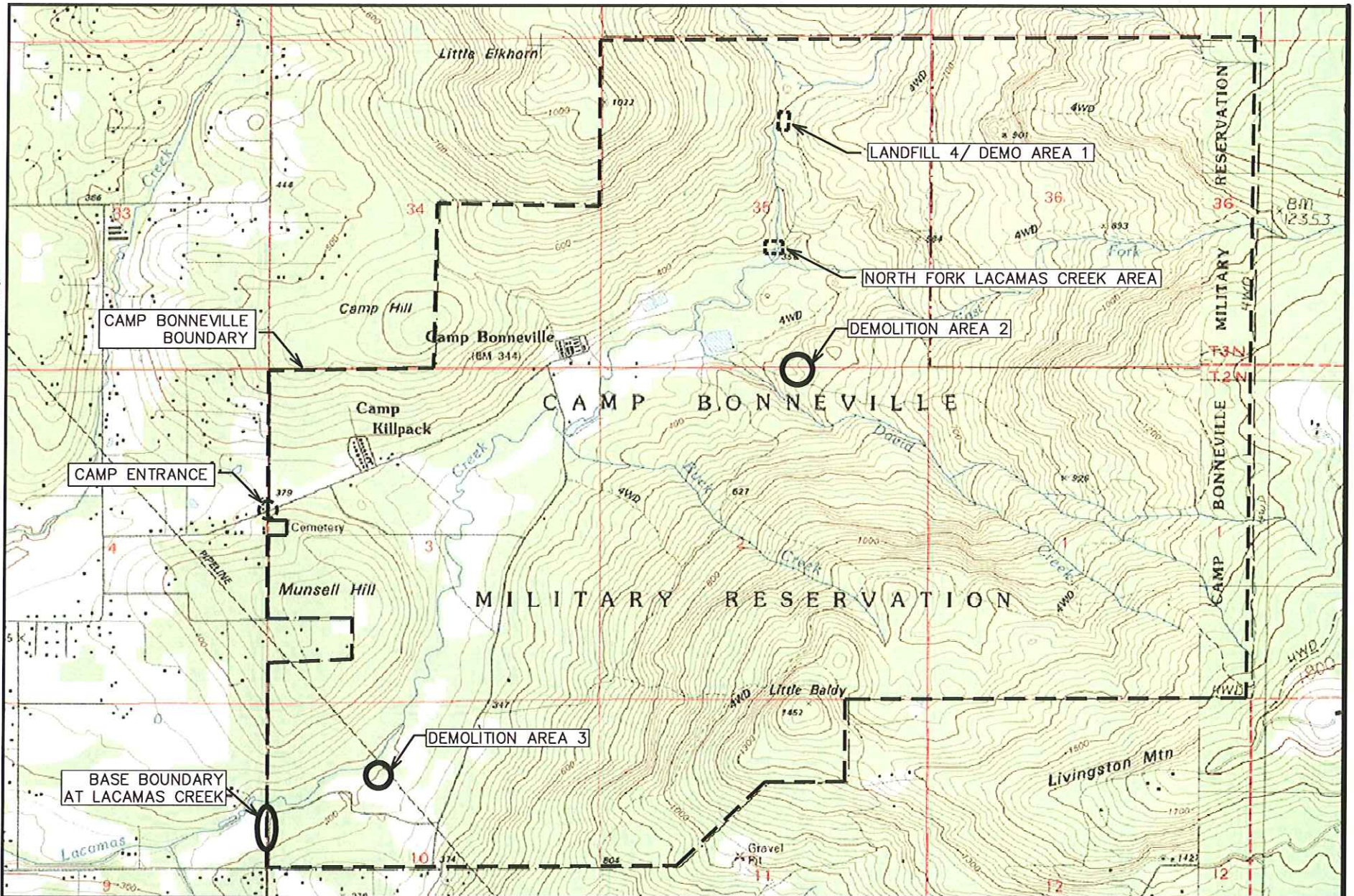
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 BASE BOUNDARY AT LACAMAS CREEK**

CAMP BONNEVILLE
 CLARK COUNTY, WASHINGTON

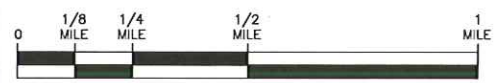
FIGURE

3

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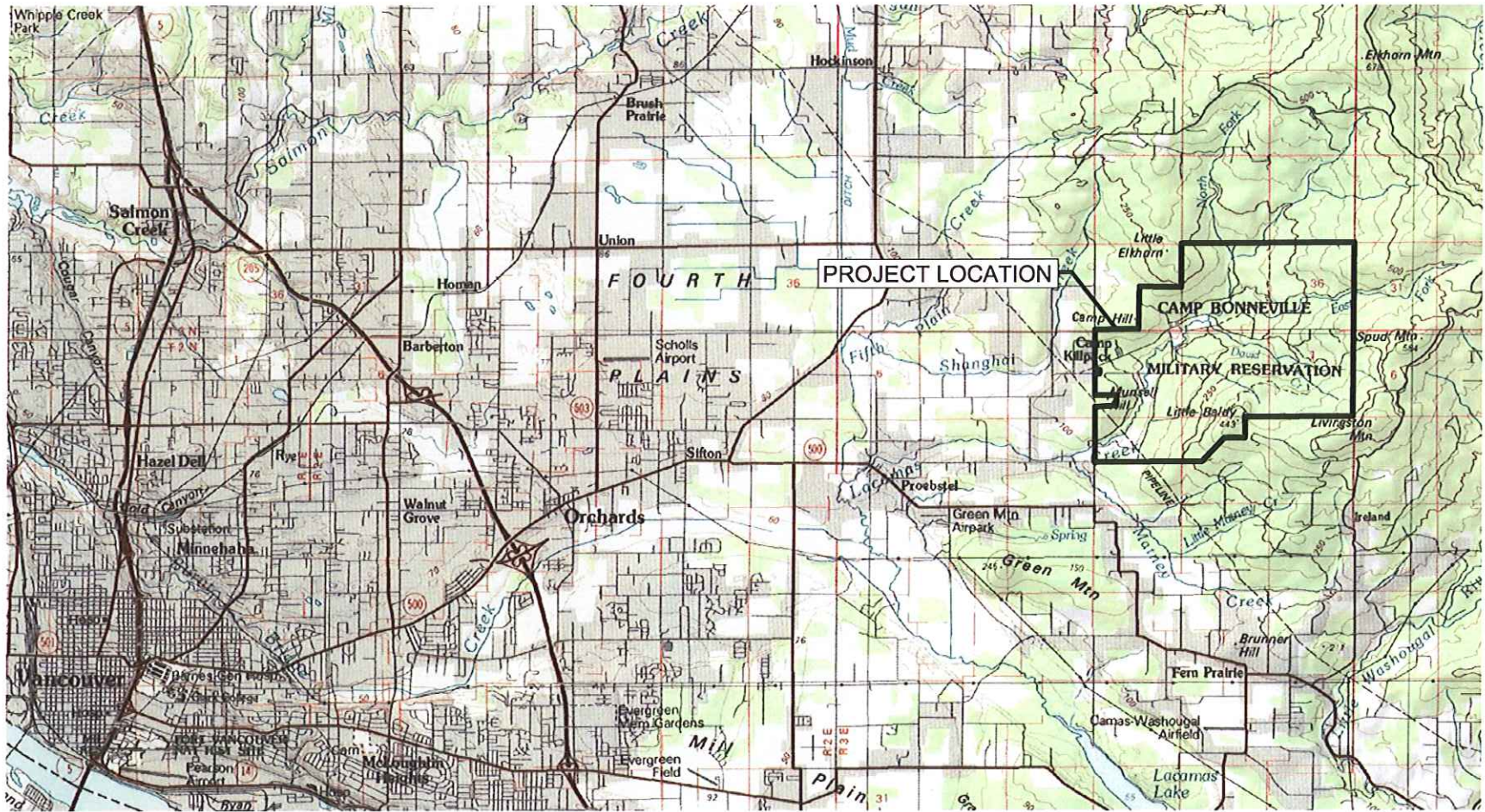


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Task #: 6209
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JAN. 2008

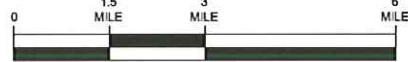


**INVESTIGATION AREAS WITHIN
CAMP BONNEVILLE BOUNDARY**
CAMP BONNEVILLE
CLARK COUNTY, WASHINGTON

FIGURE
2



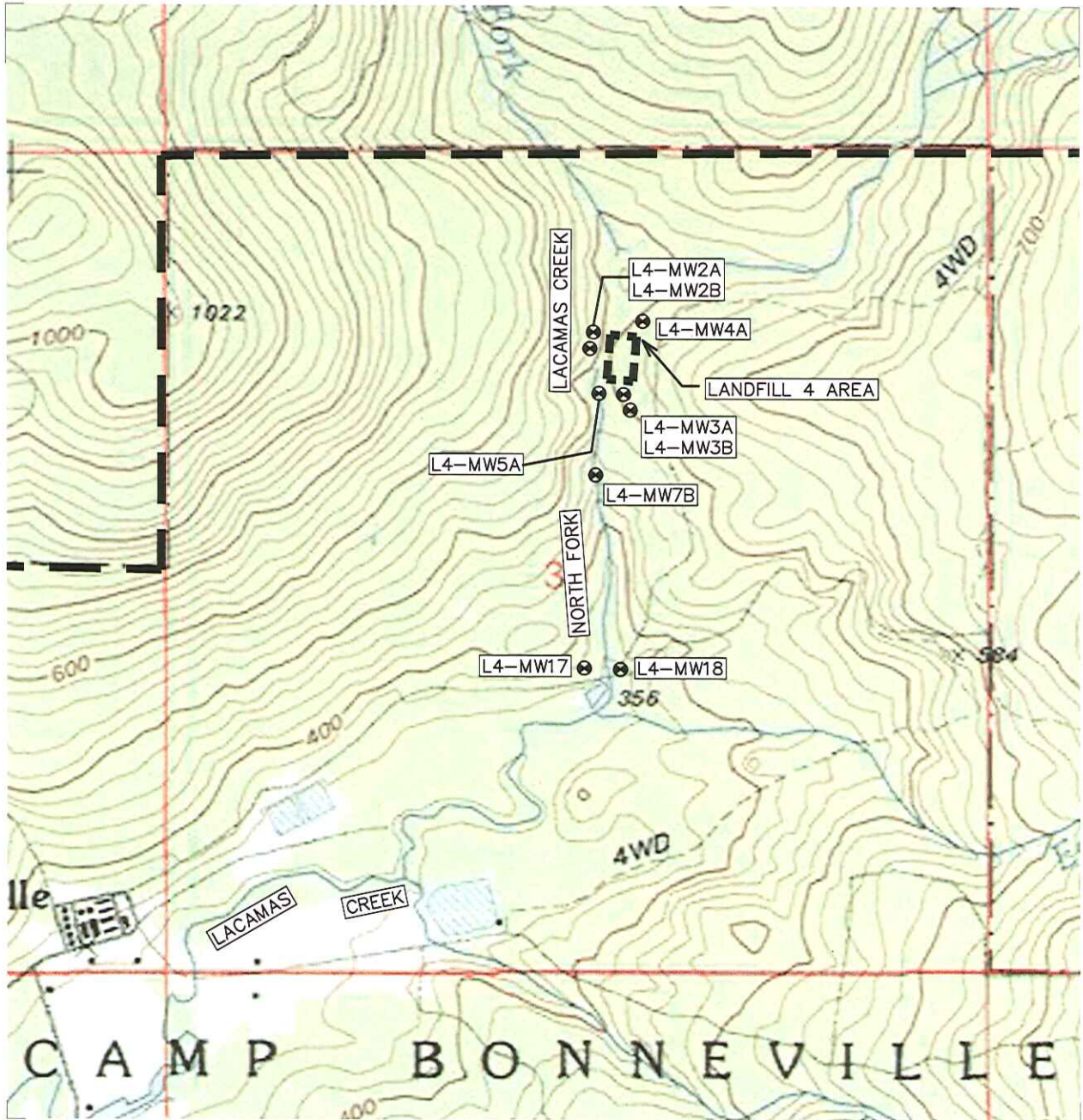
Project #:
70489.000
Task #: 6209
Date:
JAN. 2008





SITE LOCATION MAP
CAMP BONNEVILLE
CLARK COUNTY, WASHINGTON

FIGURE

1



LEGEND

- 
 LC-MW2A MONITORING WELL AND
 LC-MW2B WELL NUMBER
- 
 BASE BOUNDARY



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

APPENDIX A

Field Parameters and Laboratory Analysis Data Tables

Table 4. Constituents Detected in Groundwater Samples

Table 5. Dissolved Metals and Dissolved Organic Carbon

Table 6. Volatile and Semi-Volatile Organic Compounds

Table 7. Field Parameters for Groundwater Samples

Table 8. Well Number and Construction Details

Table 4
Constituents Detected in Groundwater
2nd Quarter 2008

Camp Bonneville, Vancouver, Washington

Sample ID	Sample Date	Location	Perchlorate (ug/L)	TPH (mg/L)			Explosives (ug/L)					General Chemistry				
				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

Sample ID	Sample Date	Location	Anions/Cations				METALS (mg/L)													
			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

Sample ID	Sample Date	Antimony ug/L	Arsenic ug/L	Beryllium ug/L	Cadmium ug/L	Chromium ug/L	Copper ug/L	Lead ug/L	Mercury ug/L	Nickel ug/L	Selenium ug/L	Silver ug/L	Thallium ug/L	Zinc 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

Sample ID	Sample Date	VOCs (ug/L)												
		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

APPENDIX B

TestAmerica, Analytical Reports
(Separate electronic files on CD)

Amended Report

July 14, 2008

Andrew Harvey
PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

RE: Camp Bonneville, WA

Enclosed are the results of analyses for samples received by the laboratory on 06/24/08 09:30.
The following list is a summary of the Work Orders contained in this report, generated on 07/14/08
14:32.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PRF0842	Camp Bonneville, WA	Camp Bonneville, WA

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
19LC MW01DW	PRF0842-02	Water	06/23/08 10:50	06/24/08 09:30
19LC MW01SW	PRF0842-03	Water	06/23/08 12:30	06/24/08 09:30
19LC MW02DW	PRF0842-04	Water	06/23/08 14:15	06/24/08 09:30
19LC MW02SW	PRF0842-05	Water	06/23/08 15:15	06/24/08 09:30
19LC MW03DW	PRF0842-06	Water	06/23/08 16:45	06/24/08 09:30

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Analytical Case Narrative

TestAmerica - Portland, OR

PRF0842

The first sample was identified as "TB" with a single VOA vial provided. The analyst, not realizing that there was only a single vial, used the vial for screening purposes. Therefore there is no useful volatiles data for the travel blank.

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Gasoline Hydrocarbons per NW TPH-Gx Method
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water			Sampled: 06/23/08 10:50					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060901	06/24/08 11:47	06/25/08 00:49	U
<i>Surrogate(s): 4-BFB</i>				86.4%	50 - 150 %		"		"	
PRF0842-03 (19LC MW01SW)		Water			Sampled: 06/23/08 12:30					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060901	06/24/08 11:47	06/25/08 01:16	U
<i>Surrogate(s): 4-BFB</i>				86.2%	50 - 150 %		"		"	
PRF0842-04 (19LC MW02DW)		Water			Sampled: 06/23/08 14:15					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060901	06/24/08 11:47	06/25/08 03:33	U
<i>Surrogate(s): 4-BFB</i>				84.0%	50 - 150 %		"		"	
PRF0842-05 (19LC MW02SW)		Water			Sampled: 06/23/08 15:15					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060901	06/24/08 11:47	06/25/08 04:01	U
<i>Surrogate(s): 4-BFB</i>				81.9%	50 - 150 %		"		"	
PRF0842-06 (19LC MW03DW)		Water			Sampled: 06/23/08 16:45					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060901	06/24/08 11:47	06/25/08 04:28	U
<i>Surrogate(s): 4-BFB</i>				84.6%	50 - 150 %		"		"	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water			Sampled: 06/23/08 10:50					
Diesel Range Organics	NWTPH-Dx	ND	0.0394	0.0769	mg/l	1x	8060939	06/25/08 12:00	06/26/08 11:49	U
Heavy Oil Range Hydrocarbons	"	ND	0.275	0.481	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>			86.7%			50 - 150 %	"			
PRF0842-03 (19LC MW01SW)		Water			Sampled: 06/23/08 12:30					
Diesel Range Organics	NWTPH-Dx	ND	0.0394	0.0769	mg/l	1x	8060939	06/25/08 12:00	06/26/08 12:07	U
Heavy Oil Range Hydrocarbons	"	ND	0.275	0.481	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>			93.4%			50 - 150 %	"			
PRF0842-04 (19LC MW02DW)		Water			Sampled: 06/23/08 14:15					
Diesel Range Organics	NWTPH-Dx	ND	0.0394	0.0769	mg/l	1x	8060939	06/25/08 12:00	06/26/08 12:25	U
Heavy Oil Range Hydrocarbons	"	ND	0.275	0.481	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>			87.4%			50 - 150 %	"			
PRF0842-05 (19LC MW02SW)		Water			Sampled: 06/23/08 15:15					
Diesel Range Organics	NWTPH-Dx	ND	0.0390	0.0762	mg/l	1x	8060939	06/25/08 12:00	06/26/08 12:42	U
Heavy Oil Range Hydrocarbons	"	ND	0.273	0.476	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>			90.5%			50 - 150 %	"			
PRF0842-06 (19LC MW03DW)		Water			Sampled: 06/23/08 16:45					
Diesel Range Organics	NWTPH-Dx	ND	0.0390	0.0762	mg/l	1x	8060939	06/25/08 12:00	06/26/08 13:00	U
Heavy Oil Range Hydrocarbons	"	ND	0.273	0.476	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>			77.9%			50 - 150 %	"			

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 17:27	U	
Arsenic	"	0.000400	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/25/08 22:28	U	
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	06/25/08 17:27	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000170	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.000870	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 17:32	U	
Arsenic	"	0.000240	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U	
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	"	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	0.00126	0.000270	0.00200	"	"	"	"	"	J	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00137	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 17:38	U	
Arsenic	"	0.000490	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Cadmium	EPA 6020	ND	0.000065 0	0.000500	mg/l	1x	8060931	06/25/08 08:01	06/25/08 17:38	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000270	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.000710	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 17:43	U	
Arsenic	"	0.000470	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U	
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	"	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	0.00501	0.000270	0.00200	"	"	"	"	"		
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000200	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00235	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 18:11	U	
Arsenic	"	0.000710	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U	
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	"	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Total Metals per EPA 6000/7000 Series Methods
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-06 (19LC MW03DW)				Water						
										Sampled: 06/23/08 16:45
Nickel	EPA 6020	0.000150	0.000150	0.00100	mg/l	1x	8060931	06/25/08 08:01	06/25/08 18:11	J
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	ND	0.000700	0.00500	"	"	"	"	"	U

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Dissolved Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:07	U	
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 01:46	U	
Cadmium	"	0.0000650	0.000065 0	0.000500	"	"	"	"	06/27/08 16:07	J	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000180	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00150	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:12	U	
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 01:54	U	
Cadmium	"	0.000180	0.000065 0	0.000500	"	"	"	"	06/27/08 16:12	J	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000263	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00404	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:18	U	
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:02	U	

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Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Dissolved Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Cadmium	EPA 6020	ND	0.000065 0	0.000500	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:18	U	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000219	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00143	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:23	U	
Arsenic	"	0.000189	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:11	U	
Cadmium	"	0.0000990	0.000065 0	0.000500	"	"	"	"	06/27/08 16:23	J	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	0.000668	0.000270	0.00200	"	"	"	"	"	J	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	
Nickel	"	0.000460	0.000150	0.00100	"	"	"	"	"	J	
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U	
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U	
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U	
Zinc	"	0.00970	0.000700	0.00500	"	"	"	"	"	J	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45					
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:28	U	
Arsenic	"	0.000394	0.000180	0.00100	"	"	"	"	"	J	
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:19	U	
Cadmium	"	0.000110	0.000065 0	0.000500	"	"	"	"	06/27/08 16:28	J	
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U	
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U	
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U	

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Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Dissolved Metals per EPA 6000/7000 Series Methods
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Nickel	EPA 6020	0.000535	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:28	J
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00109	0.000700	0.00500	"	"	"	"	"	J

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
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 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Dissolved Mercury per EPA Method 7470A
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8060912	06/24/08 14:14	06/25/08 09:24	U
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8060912	06/24/08 14:14	06/25/08 09:26	U
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8060912	06/24/08 14:14	06/25/08 09:29	U
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8060912	06/24/08 14:14	06/25/08 09:31	U
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8060912	06/24/08 14:14	06/25/08 09:39	U

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Total Mercury per EPA Method 7470A
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8060911	06/24/08 14:13	06/25/08 08:42	U
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8060911	06/24/08 14:13	06/25/08 08:44	U
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8060911	06/24/08 14:13	06/25/08 08:46	U
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8060911	06/24/08 14:13	06/25/08 08:49	U
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8060911	06/24/08 14:13	06/25/08 08:57	U

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:11	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:11	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

Surrogate(s):	4-BFB	96.8%	80 - 120 %	"	"
	1,2-DCA-d4	108%	80 - 120 %	"	"
	Dibromofluoromethane	105%	80 - 120 %	"	"
	Toluene-d8	105%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:38	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-03 (19LC MW01SW)				Water		Sampled: 06/23/08 12:30				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:38	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i> 4-BFB	97.2%	80 - 120 %	"	"
1,2-DCA-d4	106%	80 - 120 %	"	"
Dibromofluoromethane	103%	80 - 120 %	"	"
Toluene-d8	104%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-04 (19LC MW02DW)			Water			Sampled: 06/23/08 14:15				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:05	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-04 (19LC MW02DW)			Water			Sampled: 06/23/08 14:15				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:05	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>94.9%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>110%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>106%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>106%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-05 (19LC MW02SW)				Water			Sampled: 06/23/08 15:15			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:32	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-05 (19LC MW02SW)			Water			Sampled: 06/23/08 15:15				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:32	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

Surrogate(s):	4-BFB	94.4%	80 - 120 %	"	"
	1,2-DCA-d4	108%	80 - 120 %	"	"
	Dibromofluoromethane	104%	80 - 120 %	"	"
	Toluene-d8	105%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:58	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:58	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

Surrogate(s):	4-BFB	92.4%	80 - 120 %	"	"
	1,2-DCA-d4	107%	80 - 120 %	"	"
	Dibromofluoromethane	104%	80 - 120 %	"	"
	Toluene-d8	105%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)			Water			Sampled: 06/23/08 10:50				
Acenaphthene	EPA 8270C	ND	2.91	4.85	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:16	U
Acenaphthylene	"	ND	2.91	4.85	"	"	"	"	"	U
Anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzoic Acid	"	ND	48.5	48.5	"	"	"	"	"	U
Benzyl alcohol	"	ND	4.85	9.71	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	2.91	4.85	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chloroaniline	"	ND	9.71	19.4	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	4.85	9.71	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	2.91	4.85	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	4.85	9.71	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Chlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	2.91	4.85	"	"	"	"	"	U
Chrysene	"	ND	2.91	4.85	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Dibenzofuran	"	ND	2.91	4.85	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	2.91	4.85	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
Diethyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
Dimethyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	14.6	24.3	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	2.91	4.85	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)			Water			Sampled: 06/23/08 10:50				
2,6-Dinitrotoluene	EPA 8270C	ND	2.91	4.85	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:16	U
Bis(2-ethylhexyl)phthalate	"	ND	9.71	9.71	"	"	"	"	"	U
Fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Fluorene	"	ND	2.91	4.85	"	"	"	"	"	U
Hexachlorobenzene	"	ND	2.91	4.85	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	4.85	9.71	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	4.85	9.71	"	"	"	"	"	U
Hexachloroethane	"	ND	4.85	9.71	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
Isophorone	"	ND	2.91	4.85	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Methylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	2.91	4.85	"	"	"	"	"	U
Naphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Nitroaniline	"	ND	2.91	4.85	"	"	"	"	"	U
3-Nitroaniline	"	ND	4.85	9.71	"	"	"	"	"	U
4-Nitroaniline	"	ND	4.85	9.71	"	"	"	"	"	U
Nitrobenzene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Nitrophenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Nitrophenol	"	ND	9.71	24.3	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	4.85	9.71	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	2.91	4.85	"	"	"	"	"	U
Pentachlorophenol	"	ND	4.85	9.71	"	"	"	"	"	U
Phenanthrene	"	ND	2.91	4.85	"	"	"	"	"	U
Phenol	"	ND	2.91	4.85	"	"	"	"	"	U
Pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>71.4%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>74.8%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>87.3%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>76.6%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>97.3%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>91.9%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-03 (19LC MW01SW)			Water			Sampled: 06/23/08 12:30				
Acenaphthene	EPA 8270C	ND	2.86	4.76	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:38	U
Acenaphthylene	"	ND	2.86	4.76	"	"	"	"	"	U
Anthracene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	2.86	4.76	"	"	"	"	"	U
Benzoic Acid	"	ND	47.6	47.6	"	"	"	"	"	U
Benzyl alcohol	"	ND	4.76	9.52	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	2.86	4.76	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	2.86	4.76	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	2.86	4.76	"	"	"	"	"	U
4-Chloroaniline	"	ND	9.52	19.0	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	4.76	9.52	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	2.86	4.76	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	4.76	9.52	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	2.86	4.76	"	"	"	"	"	U
2-Chlorophenol	"	ND	2.86	4.76	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	2.86	4.76	"	"	"	"	"	U
Chrysene	"	ND	2.86	4.76	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	2.86	4.76	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	2.86	4.76	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	2.86	4.76	"	"	"	"	"	U
Dibenzofuran	"	ND	2.86	4.76	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	4.76	4.76	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	4.76	4.76	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	4.76	4.76	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	2.86	4.76	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	2.86	4.76	"	"	"	"	"	U
Diethyl phthalate	"	ND	2.86	4.76	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	4.76	9.52	"	"	"	"	"	U
Dimethyl phthalate	"	ND	2.86	4.76	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	4.76	9.52	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	14.3	23.8	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	2.86	4.76	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-03 (19LC MW01SW)			Water			Sampled: 06/23/08 12:30				
2,6-Dinitrotoluene	EPA 8270C	ND	2.86	4.76	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:38	U
Bis(2-ethylhexyl)phthalate	"	ND	9.52	9.52	"	"	"	"	"	U
Fluoranthene	"	ND	2.86	4.76	"	"	"	"	"	U
Fluorene	"	ND	2.86	4.76	"	"	"	"	"	U
Hexachlorobenzene	"	ND	2.86	4.76	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	4.76	9.52	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	4.76	9.52	"	"	"	"	"	U
Hexachloroethane	"	ND	4.76	9.52	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	2.86	4.76	"	"	"	"	"	U
Isophorone	"	ND	2.86	4.76	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	2.86	4.76	"	"	"	"	"	U
2-Methylphenol	"	ND	4.76	9.52	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	2.86	4.76	"	"	"	"	"	U
Naphthalene	"	ND	2.86	4.76	"	"	"	"	"	U
2-Nitroaniline	"	ND	2.86	4.76	"	"	"	"	"	U
3-Nitroaniline	"	ND	4.76	9.52	"	"	"	"	"	U
4-Nitroaniline	"	ND	4.76	9.52	"	"	"	"	"	U
Nitrobenzene	"	ND	2.86	4.76	"	"	"	"	"	U
2-Nitrophenol	"	ND	2.86	4.76	"	"	"	"	"	U
4-Nitrophenol	"	ND	9.52	23.8	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	4.76	9.52	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	2.86	4.76	"	"	"	"	"	U
Pentachlorophenol	"	ND	4.76	9.52	"	"	"	"	"	U
Phenanthrene	"	ND	2.86	4.76	"	"	"	"	"	U
Phenol	"	ND	2.86	4.76	"	"	"	"	"	U
Pyrene	"	ND	2.86	4.76	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	4.76	4.76	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	2.86	4.76	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	2.86	4.76	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>74.5%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>81.6%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>90.5%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>86.6%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>99.8%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>97.7%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-04 (19LC MW02DW)			Water			Sampled: 06/23/08 14:15				
Acenaphthene	EPA 8270C	ND	2.91	4.85	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:00	U
Acenaphthylene	"	ND	2.91	4.85	"	"	"	"	"	U
Anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Benzoic Acid	"	ND	48.5	48.5	"	"	"	"	"	U
Benzyl alcohol	"	ND	4.85	9.71	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	2.91	4.85	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chloroaniline	"	ND	9.71	19.4	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	4.85	9.71	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	2.91	4.85	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	4.85	9.71	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Chlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	2.91	4.85	"	"	"	"	"	U
Chrysene	"	ND	2.91	4.85	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	2.91	4.85	"	"	"	"	"	U
Dibenzofuran	"	ND	2.91	4.85	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	2.91	4.85	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
Diethyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
Dimethyl phthalate	"	ND	2.91	4.85	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	14.6	24.3	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	2.91	4.85	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-04 (19LC MW02DW)			Water			Sampled: 06/23/08 14:15				
2,6-Dinitrotoluene	EPA 8270C	ND	2.91	4.85	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:00	U
Bis(2-ethylhexyl)phthalate	"	ND	9.71	9.71	"	"	"	"	"	U
Fluoranthene	"	ND	2.91	4.85	"	"	"	"	"	U
Fluorene	"	ND	2.91	4.85	"	"	"	"	"	U
Hexachlorobenzene	"	ND	2.91	4.85	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	4.85	9.71	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	4.85	9.71	"	"	"	"	"	U
Hexachloroethane	"	ND	4.85	9.71	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
Isophorone	"	ND	2.91	4.85	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Methylphenol	"	ND	4.85	9.71	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	2.91	4.85	"	"	"	"	"	U
Naphthalene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Nitroaniline	"	ND	2.91	4.85	"	"	"	"	"	U
3-Nitroaniline	"	ND	4.85	9.71	"	"	"	"	"	U
4-Nitroaniline	"	ND	4.85	9.71	"	"	"	"	"	U
Nitrobenzene	"	ND	2.91	4.85	"	"	"	"	"	U
2-Nitrophenol	"	ND	2.91	4.85	"	"	"	"	"	U
4-Nitrophenol	"	ND	9.71	24.3	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	4.85	9.71	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	2.91	4.85	"	"	"	"	"	U
Pentachlorophenol	"	ND	4.85	9.71	"	"	"	"	"	U
Phenanthrene	"	ND	2.91	4.85	"	"	"	"	"	U
Phenol	"	ND	2.91	4.85	"	"	"	"	"	U
Pyrene	"	ND	2.91	4.85	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	4.85	4.85	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	2.91	4.85	"	"	"	"	"	U
<i>Surrogate(s):</i>										
	<i>2-Fluorobiphenyl</i>			60.3%		22 - 120 %	"			"
	<i>2-Fluorophenol</i>			66.9%		5 - 120 %	"			"
	<i>Nitrobenzene-d5</i>			70.8%		26 - 127 %	"			"
	<i>Phenol-d6</i>			73.1%		4 - 121 %	"			"
	<i>p-Terphenyl-d14</i>			97.9%		37 - 130 %	"			"
	<i>2,4,6-Tribromophenol</i>			78.8%		21 - 129 %	"			"

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-05 (19LC MW02SW)			Water			Sampled: 06/23/08 15:15				
Acenaphthene	EPA 8270C	ND	2.88	4.81	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:22	U
Acenaphthylene	"	ND	2.88	4.81	"	"	"	"	"	U
Anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzoic Acid	"	ND	48.1	48.1	"	"	"	"	"	U
Benzyl alcohol	"	ND	4.81	9.62	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	2.88	4.81	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chloroaniline	"	ND	9.62	19.2	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	4.81	9.62	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	2.88	4.81	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	4.81	9.62	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Chlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	2.88	4.81	"	"	"	"	"	U
Chrysene	"	ND	2.88	4.81	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Dibenzofuran	"	ND	2.88	4.81	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	2.88	4.81	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
Diethyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
Dimethyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	14.4	24.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	2.88	4.81	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-05 (19LC MW02SW)			Water			Sampled: 06/23/08 15:15				
2,6-Dinitrotoluene	EPA 8270C	ND	2.88	4.81	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:22	U
Bis(2-ethylhexyl)phthalate	"	ND	9.62	9.62	"	"	"	"	"	U
Fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Fluorene	"	ND	2.88	4.81	"	"	"	"	"	U
Hexachlorobenzene	"	ND	2.88	4.81	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	4.81	9.62	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	4.81	9.62	"	"	"	"	"	U
Hexachloroethane	"	ND	4.81	9.62	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
Isophorone	"	ND	2.88	4.81	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Methylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	2.88	4.81	"	"	"	"	"	U
Naphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Nitroaniline	"	ND	2.88	4.81	"	"	"	"	"	U
3-Nitroaniline	"	ND	4.81	9.62	"	"	"	"	"	U
4-Nitroaniline	"	ND	4.81	9.62	"	"	"	"	"	U
Nitrobenzene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Nitrophenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Nitrophenol	"	ND	9.62	24.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	4.81	9.62	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	2.88	4.81	"	"	"	"	"	U
Pentachlorophenol	"	ND	4.81	9.62	"	"	"	"	"	U
Phenanthrene	"	ND	2.88	4.81	"	"	"	"	"	U
Phenol	"	ND	2.88	4.81	"	"	"	"	"	U
Pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>63.9%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>64.8%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>76.7%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>67.4%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>93.0%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>76.1%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-06 (19LC MW03DW)			Water			Sampled: 06/23/08 16:45				
Acenaphthene	EPA 8270C	ND	2.88	4.81	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:43	U
Acenaphthylene	"	ND	2.88	4.81	"	"	"	"	"	U
Anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Benzoic Acid	"	ND	48.1	48.1	"	"	"	"	"	U
Benzyl alcohol	"	ND	4.81	9.62	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	2.88	4.81	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chloroaniline	"	ND	9.62	19.2	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	4.81	9.62	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	2.88	4.81	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	4.81	9.62	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Chlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	2.88	4.81	"	"	"	"	"	U
Chrysene	"	ND	2.88	4.81	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	2.88	4.81	"	"	"	"	"	U
Dibenzofuran	"	ND	2.88	4.81	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	2.88	4.81	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
Diethyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
Dimethyl phthalate	"	ND	2.88	4.81	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	14.4	24.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	2.88	4.81	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-06 (19LC MW03DW)			Water			Sampled: 06/23/08 16:45				
2,6-Dinitrotoluene	EPA 8270C	ND	2.88	4.81	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:43	U
Bis(2-ethylhexyl)phthalate	"	ND	9.62	9.62	"	"	"	"	"	U
Fluoranthene	"	ND	2.88	4.81	"	"	"	"	"	U
Fluorene	"	ND	2.88	4.81	"	"	"	"	"	U
Hexachlorobenzene	"	ND	2.88	4.81	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	4.81	9.62	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	4.81	9.62	"	"	"	"	"	U
Hexachloroethane	"	ND	4.81	9.62	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
Isophorone	"	ND	2.88	4.81	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Methylphenol	"	ND	4.81	9.62	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	2.88	4.81	"	"	"	"	"	U
Naphthalene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Nitroaniline	"	ND	2.88	4.81	"	"	"	"	"	U
3-Nitroaniline	"	ND	4.81	9.62	"	"	"	"	"	U
4-Nitroaniline	"	ND	4.81	9.62	"	"	"	"	"	U
Nitrobenzene	"	ND	2.88	4.81	"	"	"	"	"	U
2-Nitrophenol	"	ND	2.88	4.81	"	"	"	"	"	U
4-Nitrophenol	"	ND	9.62	24.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	4.81	9.62	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	2.88	4.81	"	"	"	"	"	U
Pentachlorophenol	"	ND	4.81	9.62	"	"	"	"	"	U
Phenanthrene	"	ND	2.88	4.81	"	"	"	"	"	U
Phenol	"	ND	2.88	4.81	"	"	"	"	"	U
Pyrene	"	ND	2.88	4.81	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	4.81	4.81	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	2.88	4.81	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>62.6%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>62.2%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>72.7%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>64.8%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>96.7%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>77.2%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.)
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)				Water		Sampled: 06/23/08 10:50				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:11	U
PRF0842-03 (19LC MW01SW)				Water		Sampled: 06/23/08 12:30				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 11:38	U
PRF0842-04 (19LC MW02DW)				Water		Sampled: 06/23/08 14:15				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:05	U
PRF0842-05 (19LC MW02SW)				Water		Sampled: 06/23/08 15:15				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:32	U
PRF0842-06 (19LC MW03DW)				Water		Sampled: 06/23/08 16:45				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070104	07/03/08 06:36	07/03/08 12:58	U

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Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Tentatively Identified Compounds per Semivolatile GC/MS (Est. Conc.)

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
No TICS identified	EPA 8270C	ND	9.71	9.71	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:16	U
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
No TICS identified	EPA 8270C	ND	9.52	9.52	ug/l	1x	8060908	06/24/08 15:45	06/27/08 22:38	U
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
No TICS identified	EPA 8270C	ND	9.71	9.71	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:00	U
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
No TICS identified	EPA 8270C	ND	9.62	9.62	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:22	U
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
No TICS identified	EPA 8270C	ND	9.62	9.62	ug/l	1x	8060908	06/24/08 15:45	06/27/08 23:43	U

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Conventional Chemistry Parameters per APHA/EPA Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.138	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.36			pH Units	1x	8060891	06/24/08 10:11	06/24/08 10:25	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.101	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.47			pH Units	1x	8060891	06/24/08 10:11	06/24/08 10:25	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.488	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.53			pH Units	1x	8060891	06/24/08 10:11	06/24/08 10:25	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.345	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.56			pH Units	1x	8060891	06/24/08 10:11	06/24/08 10:25	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.339	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.52			pH Units	1x	8060891	06/24/08 10:11	06/24/08 10:25	

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Conventional Chemistry Parameters per Standard Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50					
Bicarbonate Alkalinity	SM 2320B	47.7	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/27/08 10:32		
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Total Alkalinity	"	47.7	0.320	5.00	"	"	"	"	"		
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30					
Bicarbonate Alkalinity	SM 2320B	46.1	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/27/08 10:32		
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Total Alkalinity	"	46.1	0.320	5.00	"	"	"	"	"		
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Bicarbonate Alkalinity	SM 2320B	47.0	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36		
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Total Alkalinity	"	47.0	0.320	5.00	"	"	"	"	"		
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15					
Bicarbonate Alkalinity	SM 2320B	44.7	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36		
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Total Alkalinity	"	44.7	0.320	5.00	"	"	"	"	"		
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45					
Bicarbonate Alkalinity	SM 2320B	48.9	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36		
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U	
Total Alkalinity	"	48.9	0.320	5.00	"	"	"	"	"		
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Conventional Chemistry Parameters per Standard Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Anions per EPA Method 300.0
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50					
Chloride	EPA 300.0	1.37	0.0270	0.500	mg/l	1x	8060887	06/24/08 10:20	06/24/08 10:33		
Sulfate	"	0.900	0.198	1.00	"	"	"	"	"	J	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30					
Chloride	EPA 300.0	1.26	0.0270	0.500	mg/l	1x	8060887	06/24/08 10:20	06/24/08 10:47		
Sulfate	"	0.560	0.198	1.00	"	"	"	"	"	J	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15					
Chloride	EPA 300.0	1.88	0.0270	0.500	mg/l	1x	8060887	06/24/08 10:20	06/24/08 11:01		
Sulfate	"	0.920	0.198	1.00	"	"	"	"	"	J	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15					
Chloride	EPA 300.0	1.43	0.0270	0.500	mg/l	1x	8060887	06/24/08 10:20	06/24/08 11:15		
Sulfate	"	1.70	0.198	1.00	"	"	"	"	"		
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45					
Chloride	EPA 300.0	1.50	0.0270	0.500	mg/l	1x	8060887	06/24/08 10:20	06/24/08 12:11		
Sulfate	"	ND	0.198	1.00	"	"	"	"	"	U	

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Conventional Chemistry Parameters by APHA/EPA Methods
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)			Water			Sampled: 06/23/08 10:50				
Nitrite-Nitrogen	EPA 353.2	ND	----	0.0100	mg/l as N	1x	8F26022	06/25/08 09:52	06/25/08 10:06	C
PRF0842-03 (19LC MW01SW)			Water			Sampled: 06/23/08 12:30				
Nitrite-Nitrogen	EPA 353.2	ND	----	0.0100	mg/l as N	1x	8F26022	06/25/08 09:52	06/25/08 10:06	C
PRF0842-04 (19LC MW02DW)			Water			Sampled: 06/23/08 14:15				
Nitrite-Nitrogen	EPA 353.2	ND	----	0.0100	mg/l as N	1x	8F26022	06/25/08 09:52	06/25/08 10:06	C
PRF0842-05 (19LC MW02SW)			Water			Sampled: 06/23/08 15:15				
Nitrite-Nitrogen	EPA 353.2	ND	----	0.0100	mg/l as N	1x	8F26022	06/25/08 09:52	06/25/08 10:06	C
PRF0842-06 (19LC MW03DW)			Water			Sampled: 06/23/08 16:45				
Nitrite-Nitrogen	EPA 353.2	ND	----	0.0100	mg/l as N	1x	8F26022	06/25/08 09:52	06/25/08 10:06	C

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Total Organic Carbon, Combustion or Oxidation
 TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Total Organic Carbon	415.1	ND	----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Total Organic Carbon	415.1	ND	----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
Total Organic Carbon	415.1	ND	----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
Total Organic Carbon	415.1	ND	----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Total Organic Carbon	415.1	ND	----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Total Organic Carbon, Combustion or Oxidation Diss
 TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water				Sampled: 06/23/08 10:50				
Total Organic Carbon	415.1 Dissolved	ND	----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0842-03 (19LC MW01SW)		Water				Sampled: 06/23/08 12:30				
Total Organic Carbon	415.1 Dissolved	ND	----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0842-04 (19LC MW02DW)		Water				Sampled: 06/23/08 14:15				
Total Organic Carbon	415.1 Dissolved	ND	----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0842-05 (19LC MW02SW)		Water				Sampled: 06/23/08 15:15				
Total Organic Carbon	415.1 Dissolved	ND	----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0842-06 (19LC MW03DW)		Water				Sampled: 06/23/08 16:45				
Total Organic Carbon	415.1 Dissolved	ND	----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

EPA-DW1 314.0
 TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water			Sampled: 06/23/08 10:50					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 17:29	
PRF0842-03 (19LC MW01SW)		Water			Sampled: 06/23/08 12:30					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 17:50	
PRF0842-04 (19LC MW02DW)		Water			Sampled: 06/23/08 14:15					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 18:11	
PRF0842-05 (19LC MW02SW)		Water			Sampled: 06/23/08 15:15					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 18:32	
PRF0842-06 (19LC MW03DW)		Water			Sampled: 06/23/08 16:45					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 18:53	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-02 (19LC MW01DW)		Water			Sampled: 06/23/08 10:50					
2,4,6-Trinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8177628	06/25/08 18:30	06/28/08 08:29	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	ND	----	0.2	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
PETN	"	ND	----	2	"	"	"	"	"	

Surrogate(s): 1,2-Dinitrobenzene 100% 75 - 118 % " "

PRF0842-03 (19LC MW01SW)		Water			Sampled: 06/23/08 12:30					
2,4,6-Trinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8177628	06/25/08 18:30	06/28/08 08:50	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	ND	----	0.2	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PRF0842-03 (19LC MW01SW) Water Sampled: 06/23/08 12:30

PETN	SW846 8330	ND	----	2	ug/L	1x	8177628	06/25/08 18:30	06/28/08 08:50	
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				104%		75 - 118 %	"			"

PRF0842-04 (19LC MW02DW) Water Sampled: 06/23/08 14:15

2,4,6-Trinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8177628	06/25/08 18:30	06/28/08 09:11	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				109%		75 - 118 %	"			"

PRF0842-05 (19LC MW02SW) Water Sampled: 06/23/08 15:15

2,4,6-Trinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8177628	06/25/08 18:30	06/28/08 09:32	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0842-05 (19LC MW02SW)										
				Water		Sampled: 06/23/08 15:15				
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				113%		75 - 118 %	"			"

PRF0842-06 (19LC MW03DW)										
				Water		Sampled: 06/23/08 16:45				
2,4,6-Trinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8177628	06/25/08 18:30	06/28/08 09:53	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				118%		75 - 118 %	"			"

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060901 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (8060901-BLK1)							Extracted: 06/24/08 11:47								
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	--	--	--	--	--	--	06/24/08 18:24	U	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 85.9%</i>	<i>Limits: 50-150%</i>		<i>"</i>										<i>06/24/08 18:24</i>
LCS (8060901-BS1)							Extracted: 06/24/08 11:47								
Gasoline Range Hydrocarbons	NW TPH-Gx	492	32.7	80.0	ug/l	1x	--	500	98.3%	(70-130)	--	--	06/24/08 17:29		
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 98.5%</i>	<i>Limits: 50-150%</i>		<i>"</i>										<i>06/24/08 17:29</i>
LCS Dup (8060901-BSD1)							Extracted: 06/24/08 11:47								
Gasoline Range Hydrocarbons	NW TPH-Gx	499	32.7	80.0	ug/l	1x	--	500	99.9%	(70-130)	1.58%	(35)	06/24/08 17:57		
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 100%</i>	<i>Limits: 50-150%</i>		<i>"</i>										<i>06/24/08 17:57</i>
Duplicate (8060901-DUP1)							QC Source: PRF0791-04		Extracted: 06/24/08 11:47						
Gasoline Range Hydrocarbons	NW TPH-Gx	3720	327	800	ug/l	10x	3700	--	--	--	0.455%	(35)	06/24/08 19:20	D	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 101%</i>	<i>Limits: 50-150%</i>		<i>1x</i>										<i>06/24/08 19:20</i>
Duplicate (8060901-DUP2)							QC Source: PRF0791-05		Extracted: 06/24/08 11:47						
Gasoline Range Hydrocarbons	NW TPH-Gx	2390	327	800	ug/l	10x	2410	--	--	--	0.917%	(35)	06/24/08 20:15	D	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 103%</i>	<i>Limits: 50-150%</i>		<i>1x</i>										<i>06/24/08 20:15</i>

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Richard D. Reid, Project Manager

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060939 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060939-BLK1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	ND	0.0410	0.0800	mg/l	1x	--	--	--	--	--	--	06/26/08 10:34	U
Heavy Oil Range Hydrocarbons	"	ND	0.286	0.500	"	"	--	--	--	--	--	--	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 80.6%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 10:34</i>							
LCS (8060939-BS1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	1.04	0.0410	0.0800	mg/l	1x	--	1.25	83.1%	(50-150)	--	--	06/26/08 10:53	
Heavy Oil Range Hydrocarbons	"	0.772	0.286	0.500	"	"	--	0.750	103%	"	--	--	"	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 89.6%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 10:53</i>							
LCS Dup (8060939-BSD1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	0.887	0.0410	0.0800	mg/l	1x	--	1.25	71.0%	(50-150)	15.7%	(50)	06/26/08 11:11	
Heavy Oil Range Hydrocarbons	"	0.743	0.286	0.500	"	"	--	0.750	99.1%	"	3.80%	"	"	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.7%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 11:11</i>							
Duplicate (8060939-DUP1)				QC Source: PRF0882-07				Extracted: 06/25/08 15:00						
Diesel Range Organics	NWTPH-Dx	ND	0.0387	0.0755	mg/l	1x	ND	--	--	--	NR	(50)	06/26/08 11:31	U
Heavy Oil Range Hydrocarbons	"	ND	0.270	0.472	"	"	ND	--	--	--	NR	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 99.2%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 11:31</i>							

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060931 Water Preparation Method: EPA 200/3005

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060931-BLK1)													Extracted: 06/25/08 08:01	
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	--	--	--	--	--	--	06/25/08 15:48	U
Arsenic	"	ND	0.000180	0.00100	"	"	--	--	--	--	--	--	"	U
Beryllium	"	ND	0.0000250	0.000500	"	"	--	--	--	--	--	--	"	U
Cadmium	"	ND	0.0000650	0.000500	"	"	--	--	--	--	--	--	"	U
Chromium	"	ND	0.000350	0.00200	"	"	--	--	--	--	--	--	"	U
Copper	"	ND	0.000270	0.00200	"	"	--	--	--	--	--	--	"	U
Lead	"	ND	0.000220	0.00100	"	"	--	--	--	--	--	--	"	U
Nickel	"	ND	0.000150	0.00100	"	"	--	--	--	--	--	--	"	U
Selenium	"	ND	0.0000750	0.000500	"	"	--	--	--	--	--	--	"	U
Silver	"	ND	0.000200	0.00100	"	"	--	--	--	--	--	--	"	U
Thallium	"	ND	0.0000500	0.00100	"	"	--	--	--	--	--	--	"	U
Zinc	"	0.00122	0.000700	0.00500	"	"	--	--	--	--	--	--	"	J

LCS (8060931-BS1)

Extracted: 06/25/08 08:01

Antimony	EPA 6020	0.0490	0.000150	0.00100	mg/l	1x	--	0.0500	98.1%	(80-120)	--	--	06/25/08 15:54	
Arsenic	"	0.0985	0.000180	0.00100	"	"	--	0.100	98.5%	"	--	--	"	
Beryllium	"	0.0937	0.0000250	0.000500	"	"	--	"	93.7%	"	--	--	"	
Cadmium	"	0.0913	0.0000650	0.000500	"	"	--	"	91.3%	"	--	--	"	
Chromium	"	0.0992	0.000350	0.00200	"	"	--	"	99.2%	"	--	--	"	
Copper	"	0.0968	0.000270	0.00200	"	"	--	"	96.8%	"	--	--	"	
Lead	"	0.0998	0.000220	0.00100	"	"	--	"	99.8%	"	--	--	"	
Nickel	"	0.0943	0.000150	0.00100	"	"	--	"	94.3%	"	--	--	"	
Selenium	"	0.0914	0.0000750	0.000500	"	"	--	"	91.4%	"	--	--	"	
Silver	"	0.0504	0.000200	0.00100	"	"	--	0.0500	101%	"	--	--	"	
Thallium	"	0.100	0.0000500	0.00100	"	"	--	0.100	100%	"	--	--	"	
Zinc	"	0.0941	0.000700	0.00500	"	"	--	"	94.1%	"	--	--	"	

Duplicate (8060931-DUP1)

QC Source: PRF0814-01

Extracted: 06/25/08 08:01

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	ND	--	--	--	NR	(20)	06/25/08 16:08	U
Arsenic	"	ND	0.000180	0.00100	"	"	ND	--	--	--	NR	"	"	U
Beryllium	"	0.000610	0.0000250	0.000500	"	"	0.000620	--	--	--	1.63%	"	"	
Cadmium	"	0.000710	0.0000650	0.000500	"	"	0.000730	--	--	--	2.78%	"	"	
Chromium	"	ND	0.000350	0.00200	"	"	ND	--	--	--	NR	"	"	U
Copper	"	0.00685	0.000270	0.00200	"	"	0.00633	--	--	--	7.89%	"	"	
Lead	"	ND	0.000220	0.00100	"	"	ND	--	--	--	NR	"	"	U
Nickel	"	0.000940	0.000150	0.00100	"	"	0.000680	--	--	--	32.1%	"	"	R4, J
Selenium	"	0.000150	0.0000750	0.000500	"	"	0.000140	--	--	--	6.90%	"	"	J
Silver	"	ND	0.000200	0.00100	"	"	ND	--	--	--	NR	"	"	U
Thallium	"	ND	0.0000500	0.00100	"	"	ND	--	--	--	NR	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060931 Water Preparation Method: EPA 200/3005

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (8060931-DUP1)			QC Source: PRF0814-01				Extracted: 06/25/08 08:01							
Zinc	EPA 6020	0.00820	0.000700	0.00500	mg/l	1x	0.00761	--	--	--	7.46%	(20)	06/25/08 16:08	
Matrix Spike (8060931-MS1)			QC Source: PRF0814-01				Extracted: 06/25/08 08:01							
Antimony	EPA 6020	0.0511	0.000150	0.00100	mg/l	1x	ND	0.0500	102%	(75-125)	--	--	06/25/08 16:32	
Arsenic	"	0.0987	0.000180	0.00100	"	"	ND	0.100	98.7%	"	--	--	"	
Beryllium	"	0.0906	0.0000250	0.000500	"	"	0.000620	"	90.0%	"	--	--	"	
Cadmium	"	0.0928	0.0000650	0.000500	"	"	0.000730	"	92.1%	"	--	--	"	
Chromium	"	0.0969	0.000350	0.00200	"	"	ND	"	96.9%	"	--	--	"	
Copper	"	0.0952	0.000270	0.00200	"	"	0.00633	"	88.8%	"	--	--	"	
Lead	"	0.0932	0.000220	0.00100	"	"	ND	"	93.2%	"	--	--	"	
Nickel	"	0.0889	0.000150	0.00100	"	"	0.000680	"	88.2%	"	--	--	"	
Selenium	"	0.0932	0.0000750	0.000500	"	"	0.000140	"	93.1%	"	--	--	"	
Silver	"	0.0487	0.000200	0.00100	"	"	ND	0.0500	97.3%	"	--	--	"	
Thallium	"	0.0943	0.0000500	0.00100	"	"	ND	0.100	94.3%	"	--	--	"	
Zinc	"	0.0961	0.000700	0.00500	"	"	0.00761	"	88.5%	"	--	--	"	
Matrix Spike (8060931-MS2)			QC Source: PRF0842-05				Extracted: 06/25/08 08:01							
Antimony	EPA 6020	0.0508	0.000150	0.00100	mg/l	1x	ND	0.0500	102%	(75-125)	--	--	06/25/08 18:02	
Arsenic	"	0.0948	0.000180	0.00100	"	"	0.000470	0.100	94.3%	"	--	--	"	
Beryllium	"	0.0841	0.0000250	0.000500	"	"	ND	"	84.1%	"	--	--	"	
Cadmium	"	0.0927	0.0000650	0.000500	"	"	ND	"	92.7%	"	--	--	"	
Chromium	"	0.0923	0.000350	0.00200	"	"	ND	"	92.3%	"	--	--	"	
Copper	"	0.0893	0.000270	0.00200	"	"	0.00501	"	84.3%	"	--	--	"	
Lead	"	0.0971	0.000220	0.00100	"	"	ND	"	97.1%	"	--	--	"	
Nickel	"	0.0885	0.000150	0.00100	"	"	0.000200	"	88.3%	"	--	--	"	
Selenium	"	0.0896	0.0000750	0.000500	"	"	ND	"	89.6%	"	--	--	"	
Silver	"	0.0490	0.000200	0.00100	"	"	ND	0.0500	98.0%	"	--	--	"	
Thallium	"	0.0971	0.0000500	0.00100	"	"	ND	0.100	97.1%	"	--	--	"	
Zinc	"	0.0895	0.000700	0.00500	"	"	0.00235	"	87.2%	"	--	--	"	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060990

Water Preparation Method: EPA 200/3005 Diss

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes		
Blank (8060990-BLK1)													Extracted: 06/26/08 11:04			
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	--	--	--	--	--	--	06/27/08 15:46	U		
Arsenic	"	ND	0.000180	0.00100	"	"	--	--	--	--	--	--	"	U		
Beryllium	"	ND	0.0000250	0.000500	"	"	--	--	--	--	--	--	06/28/08 01:30	U		
Cadmium	"	ND	0.0000650	0.000500	"	"	--	--	--	--	--	--	06/27/08 15:46	U		
Chromium	"	ND	0.000350	0.00200	"	"	--	--	--	--	--	--	"	U		
Copper	"	ND	0.000270	0.00200	"	"	--	--	--	--	--	--	"	U		
Lead	"	ND	0.000220	0.00100	"	"	--	--	--	--	--	--	"	U		
Nickel	"	ND	0.000150	0.00100	"	"	--	--	--	--	--	--	"	U		
Selenium	"	ND	0.0000750	0.000500	"	"	--	--	--	--	--	--	"	U		
Silver	"	ND	0.000200	0.00100	"	"	--	--	--	--	--	--	"	U		
Thallium	"	ND	0.0000500	0.00100	"	"	--	--	--	--	--	--	"	U		
Zinc	"	ND	0.000700	0.00500	"	"	--	--	--	--	--	--	"	U		
LCS (8060990-BS1)													Extracted: 06/26/08 11:04			
Antimony	EPA 6020	0.0406	0.000150	0.00100	mg/l	1x	--	0.0500	81.1%	(80-120)	--	--	06/27/08 15:51			
Arsenic	"	0.0944	0.000180	0.00100	"	"	--	0.100	94.4%	"	--	--	"			
Beryllium	"	0.0843	0.0000250	0.000500	"	"	--	"	84.3%	"	--	--	06/28/08 01:38			
Cadmium	"	0.0914	0.0000650	0.000500	"	"	--	"	91.4%	"	--	--	06/27/08 15:51			
Chromium	"	0.0957	0.000350	0.00200	"	"	--	"	95.7%	"	--	--	"			
Copper	"	0.0941	0.000270	0.00200	"	"	--	"	94.1%	"	--	--	"			
Lead	"	0.0908	0.000220	0.00100	"	"	--	"	90.8%	"	--	--	"			
Nickel	"	0.0933	0.000150	0.00100	"	"	--	"	93.3%	"	--	--	"			
Selenium	"	0.0917	0.0000750	0.000500	"	"	--	"	91.7%	"	--	--	"			
Silver	"	0.0426	0.000200	0.00100	"	"	--	0.0500	85.2%	"	--	--	"			
Thallium	"	0.0892	0.0000500	0.00100	"	"	--	0.100	89.2%	"	--	--	"			
Zinc	"	0.0951	0.000700	0.00500	"	"	--	"	95.1%	"	--	--	"			
Matrix Spike (8060990-MS1)													QC Source: PRF0882-07		Extracted: 06/26/08 11:04	
Antimony	EPA 6020	0.0438	0.000150	0.00100	mg/l	1x	ND	0.0500	87.6%	(75-125)	--	--	06/27/08 17:05			
Arsenic	"	0.101	0.000180	0.00100	"	"	ND	0.100	101%	"	--	--	"			
Beryllium	"	0.0940	0.0000250	0.000500	"	"	ND	"	94.0%	"	--	--	06/28/08 03:23			
Cadmium	"	0.100	0.0000650	0.000500	"	"	ND	"	100%	"	--	--	06/27/08 17:05			
Chromium	"	0.102	0.000350	0.00200	"	"	ND	"	102%	"	--	--	"			
Copper	"	0.100	0.000270	0.00200	"	"	ND	"	100%	"	--	--	"			
Lead	"	0.0960	0.000220	0.00100	"	"	ND	"	96.0%	"	--	--	"			
Nickel	"	0.0990	0.000150	0.00100	"	"	0.000447	"	98.6%	"	--	--	"			
Selenium	"	0.101	0.0000750	0.000500	"	"	ND	"	101%	"	--	--	"			
Silver	"	0.0453	0.000200	0.00100	"	"	ND	0.0500	90.7%	"	--	--	"			
Thallium	"	0.0945	0.0000500	0.00100	"	"	ND	0.100	94.5%	"	--	--	"			

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060990 Water Preparation Method: EPA 200/3005 Diss

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8060990-MS1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Zinc	EPA 6020	0.106	0.000700	0.00500	mg/l	1x	0.000904	0.100	105%	(75-125)	--	--	06/27/08 17:05	
Matrix Spike Dup (8060990-MSD1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Antimony	EPA 6020	0.0450	0.000150	0.00100	mg/l	1x	ND	0.0500	90.0%	(75-125)	2.66%	(20)	06/27/08 17:10	
Arsenic	"	0.102	0.000180	0.00100	"	"	ND	0.100	102%	"	1.18%	"	"	
Beryllium	"	0.0917	0.0000250	0.000500	"	"	ND	"	91.7%	"	2.48%	"	06/28/08 03:32	
Cadmium	"	0.103	0.0000650	0.000500	"	"	ND	"	103%	"	2.17%	"	06/27/08 17:10	
Chromium	"	0.103	0.000350	0.00200	"	"	ND	"	103%	"	1.56%	"	"	
Copper	"	0.101	0.000270	0.00200	"	"	ND	"	101%	"	0.598%	"	"	
Lead	"	0.0976	0.000220	0.00100	"	"	ND	"	97.6%	"	1.67%	"	"	
Nickel	"	0.100	0.000150	0.00100	"	"	0.000447	"	99.8%	"	1.16%	"	"	
Selenium	"	0.102	0.0000750	0.000500	"	"	ND	"	102%	"	1.28%	"	"	
Silver	"	0.0461	0.000200	0.00100	"	"	ND	0.0500	92.2%	"	1.68%	"	"	
Thallium	"	0.0961	0.0000500	0.00100	"	"	ND	0.100	96.1%	"	1.64%	"	"	
Zinc	"	0.107	0.000700	0.00500	"	"	0.000904	"	106%	"	0.941%	"	"	
Post Spike (8060990-PS1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Arsenic	EPA 6020	0.105			ug/ml	1x	-0.000223	0.100	105%	(75-125)	--	--	06/27/08 17:16	

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Dissolved Mercury per EPA Method 7470A - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060912 Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060912-BLK1)								Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	ND	0.0000630	0.000200	mg/l	1x	--	--	--	--	--	--	06/25/08 09:06	U
LCS (8060912-BS1)								Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	0.00512	0.0000630	0.000200	mg/l	1x	--	0.00500	102%	(85-115)	--	--	06/25/08 09:08	
LCS Dup (8060912-BSD1)								Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	0.00511	0.0000630	0.000200	mg/l	1x	--	0.00500	102%	(85-115)	0.201% (20)		06/25/08 09:12	
Duplicate (8060912-DUP1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	ND	0.0000630	0.000200	mg/l	1x	ND	--	--	--	NR (20)		06/25/08 09:15	U
Matrix Spike (8060912-MS1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	0.00519	0.0000630	0.000200	mg/l	1x	ND	0.00500	104%	(75-125)	--	--	06/25/08 09:17	
Matrix Spike Dup (8060912-MSD1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:14						
Mercury	EPA 7470A	0.00538	0.0000630	0.000200	mg/l	1x	ND	0.00500	108%	(75-125)	3.69% (20)		06/25/08 09:21	

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Mercury per EPA Method 7470A - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060911 Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060911-BLK1)								Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	ND	0.0000673	0.000200	mg/l	1x	--	--	--	--	--	--	06/25/08 08:24	U
LCS (8060911-BS1)								Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	0.00514	0.0000673	0.000200	mg/l	1x	--	0.00500	103%	(85-115)	--	--	06/25/08 08:27	
LCS Dup (8060911-BSD1)								Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	0.00518	0.0000673	0.000200	mg/l	1x	--	0.00500	104%	(85-115)	0.759% (20)		06/25/08 08:30	
Duplicate (8060911-DUP1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	ND	0.0000673	0.000200	mg/l	1x	ND	--	--	--	NR (20)		06/25/08 08:33	U
Matrix Spike (8060911-MS1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	0.00512	0.0000673	0.000200	mg/l	1x	ND	0.00500	102%	(75-125)	--	--	06/25/08 08:35	
Matrix Spike Dup (8060911-MSD1)				QC Source: PRF0842-02				Extracted: 06/24/08 14:13						
Mercury	EPA 7470A	0.00522	0.0000673	0.000200	mg/l	1x	ND	0.00500	104%	(75-125)	1.82% (20)		06/25/08 08:39	

TestAmerica Portland



Richard D. Reid, Project Manager

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070104

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070104-BLK1)													Extracted: 07/03/08 06:36	
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	--	--	--	--	--	--	07/03/08 08:24	U
Benzene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	--	--	--	--	--	--	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Bromoform	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromomethane	"	ND	0.170	5.00	"	"	--	--	--	--	--	--	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	--	--	--	--	--	--	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	--	--	--	--	--	--	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	--	--	--	--	--	--	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	--	--	--	--	--	--	"	U
Chloroethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Chloroform	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	--	--	--	--	--	--	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	--	--	--	--	--	--	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,3-Dichloropropene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070104

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070104-BLK1)													Extracted: 07/03/08 06:36	
Hexachlorobutadiene	EPA 8260B	0.210	0.210	4.00	ug/l	1x	--	--	--	--	--	--	07/03/08 08:24	J
2-Hexanone	"	ND	3.62	10.0	"	"	--	--	--	--	--	--	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	--	--	--	--	--	--	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	--	--	--	--	--	--	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	--	--	--	--	--	--	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	--	--	--	--	--	--	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	--	--	--	--	--	--	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Styrene	"	ND	0.0400	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Toluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichlorobenzene	"	0.100	0.100	1.00	"	"	--	--	--	--	--	--	"	J
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	--	--	--	--	--	--	"	U
Surrogate(s):	4-BFB	Recovery:	97.8%	Limits:	80-120%	"							07/03/08 08:24	
	1,2-DCA-d4		99.7%		80-120%	"							"	
	Dibromofluoromethane		94.6%		80-120%	"							"	
	Toluene-d8		99.4%		80-120%	"							"	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8070104 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8070104-BS1)													Extracted: 07/03/08 06:36	
Benzene	EPA 8260B	19.7	0.0900	1.00	ug/l	1x	--	20.0	98.6%	(80-120)	--	--	07/03/08 06:58	
Chlorobenzene	"	20.6	0.0500	1.00	"	"	--	"	103%	(80-124)	--	--	"	
1,1-Dichloroethene	"	19.5	0.120	1.00	"	"	--	"	97.6%	(78-120)	--	--	"	
Toluene	"	20.1	0.110	1.00	"	"	--	"	101%	(80-124)	--	--	"	
Trichloroethene	"	20.1	0.0800	1.00	"	"	--	"	100%	(80-132)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 100%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/03/08 06:58</i>		
<i>1,2-DCA-d4</i>		<i>99.2%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>99.2%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>104%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

LCS Dup (8070104-BS1)													Extracted: 07/03/08 06:36	
Benzene	EPA 8260B	20.5	0.0900	1.00	ug/l	1x	--	20.0	103%	(80-120)	3.98% (25)		07/03/08 07:31	
Chlorobenzene	"	21.5	0.0500	1.00	"	"	--	"	108%	(80-124)	4.27%	"	"	
1,1-Dichloroethene	"	20.5	0.120	1.00	"	"	--	"	103%	(78-120)	5.09%	"	"	
Toluene	"	20.9	0.110	1.00	"	"	--	"	105%	(80-124)	3.94%	"	"	
Trichloroethene	"	20.8	0.0800	1.00	"	"	--	"	104%	(80-132)	3.47%	"	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 99.0%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/03/08 07:31</i>		
<i>1,2-DCA-d4</i>		<i>102%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>106%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060908

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060908-BLK1)										Extracted: 06/24/08 15:45				
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	--	--	--	--	--	--	06/27/08 20:03	U
Acenaphthylene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	--	--	--	--	--	--	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Chrysene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	--	--	--	--	--	--	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,6-Dinitrotoluene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	--	--	--	--	--	--	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U

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Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060908

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060908-BLK1)										Extracted: 06/24/08 15:45				
Fluorene	EPA 8270C	ND	3.00	5.00	ug/l	1x	--	--	--	--	--	--	06/27/08 20:03	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Isophorone	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Naphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	--	--	--	--	--	--	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Phenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>Recovery:</i>	<i>79.5%</i>	<i>Limits:</i>	<i>22-120%</i>	<i>"</i>							<i>06/27/08 20:03</i>	
	<i>2-Fluorophenol</i>		<i>94.5%</i>		<i>5-120%</i>	<i>"</i>							<i>"</i>	
	<i>Nitrobenzene-d5</i>		<i>98.3%</i>		<i>26-127%</i>	<i>"</i>							<i>"</i>	
	<i>Phenol-d6</i>		<i>104%</i>		<i>4-121%</i>	<i>"</i>							<i>"</i>	
	<i>p-Terphenyl-d14</i>		<i>109%</i>		<i>37-130%</i>	<i>"</i>							<i>"</i>	
	<i>2,4,6-Tribromophenol</i>		<i>106%</i>		<i>21-129%</i>	<i>"</i>							<i>"</i>	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/14/08 14:32

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060908

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (8060908-BS1)													Extracted: 06/24/08 15:45	
Acenaphthene	EPA 8270C	64.0	6.00	10.0	ug/l	2x	--	75.0	85.3%	(56-120)	--	--	06/28/08 00:05	D
4-Chloro-3-methylphenol	"	69.9	6.00	10.0	"	"	--	"	93.2%	(37-131)	--	--	"	D
2-Chlorophenol	"	64.3	6.00	10.0	"	"	--	"	85.8%	(31-130)	--	--	"	D
1,4-Dichlorobenzene	"	58.4	10.0	10.0	"	"	--	"	77.9%	(8-124)	--	--	"	D
2,4-Dinitrotoluene	"	60.4	6.00	10.0	"	"	--	"	80.5%	(50-127)	--	--	"	D
4-Nitrophenol	"	49.6	20.0	50.0	"	"	--	"	66.1%	(1-157)	--	--	"	J, D
N-Nitrosodi-n-propylamine	"	58.7	10.0	20.0	"	"	--	"	78.3%	(44-129)	--	--	"	D
Pentachlorophenol	"	61.7	10.0	20.0	"	"	--	"	82.2%	(23-149)	--	--	"	D
Phenol	"	49.0	6.00	10.0	"	"	--	"	65.3%	(1-145)	--	--	"	D
Pyrene	"	67.1	6.00	10.0	"	"	--	"	89.4%	(56-125)	--	--	"	D
1,2,4-Trichlorobenzene	"	61.6	10.0	10.0	"	"	--	"	82.2%	(33-116)	--	--	"	D

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>Recovery:</i>	<i>75.5%</i>	<i>Limits:</i>	<i>22-120%</i>	<i>"</i>							<i>06/28/08 00:05</i>	
	<i>2-Fluorophenol</i>		<i>74.6%</i>		<i>5-120%</i>	<i>"</i>							<i>"</i>	
	<i>Nitrobenzene-d5</i>		<i>88.1%</i>		<i>26-127%</i>	<i>"</i>							<i>"</i>	
	<i>Phenol-d6</i>		<i>71.3%</i>		<i>4-121%</i>	<i>"</i>							<i>"</i>	
	<i>p-Terphenyl-d14</i>		<i>92.3%</i>		<i>37-130%</i>	<i>"</i>							<i>"</i>	
	<i>2,4,6-Tribromophenol</i>		<i>92.8%</i>		<i>21-129%</i>	<i>"</i>							<i>"</i>	

LCS Dup (8060908-BSD1)

Extracted: 06/24/08 15:45

Acenaphthene	EPA 8270C	61.2	3.00	5.00	ug/l	1x	--	75.0	81.6%	(56-120)	4.47% (50)		06/27/08 20:25	
4-Chloro-3-methylphenol	"	69.4	3.00	5.00	"	"	--	"	92.5%	(37-131)	0.704%	"	"	
2-Chlorophenol	"	65.8	3.00	5.00	"	"	--	"	87.8%	(31-130)	2.34%	"	"	
1,4-Dichlorobenzene	"	57.1	5.00	5.00	"	"	--	"	76.1%	(8-124)	2.27%	"	"	
2,4-Dinitrotoluene	"	64.2	3.00	5.00	"	"	--	"	85.6%	(50-127)	6.12%	"	"	
4-Nitrophenol	"	63.2	10.0	25.0	"	"	--	"	84.3%	(1-157)	24.1%	"	"	
N-Nitrosodi-n-propylamine	"	63.6	5.00	10.0	"	"	--	"	84.8%	(44-129)	7.95%	"	"	
Pentachlorophenol	"	66.4	5.00	10.0	"	"	--	"	88.5%	(23-149)	7.30%	"	"	
Phenol	"	58.0	3.00	5.00	"	"	--	"	77.4%	(1-145)	16.9%	"	"	
Pyrene	"	66.5	3.00	5.00	"	"	--	"	88.7%	(56-125)	0.854%	"	"	
1,2,4-Trichlorobenzene	"	61.7	5.00	5.00	"	"	--	"	82.3%	(33-116)	0.0973%	"	"	

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>Recovery:</i>	<i>72.9%</i>	<i>Limits:</i>	<i>22-120%</i>	<i>"</i>							<i>06/27/08 20:25</i>	
	<i>2-Fluorophenol</i>		<i>79.9%</i>		<i>5-120%</i>	<i>"</i>							<i>"</i>	
	<i>Nitrobenzene-d5</i>		<i>89.6%</i>		<i>26-127%</i>	<i>"</i>							<i>"</i>	
	<i>Phenol-d6</i>		<i>81.0%</i>		<i>4-121%</i>	<i>"</i>							<i>"</i>	
	<i>p-Terphenyl-d14</i>		<i>96.8%</i>		<i>37-130%</i>	<i>"</i>							<i>"</i>	
	<i>2,4,6-Tribromophenol</i>		<i>102%</i>		<i>21-129%</i>	<i>"</i>							<i>"</i>	

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8070104 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070104-BLK1)										Extracted: 07/03/08 06:36				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	--	--	--	--	--	--	07/03/08 08:24	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
 4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Tentatively Identified Compounds per Semivolatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8060908 Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060908-BLK1)										Extracted: 06/24/08 15:45				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	--	--	--	--	--	--	06/27/08 20:03	U

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/14/08 14:32
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Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8060891 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (8060891-DUP1)			QC Source: PRF0842-02					Extracted: 06/24/08 10:11							
pH	EPA 150.1	6.36			pH Units	1x	6.36	--	--	--	0.00% (25)		06/24/08 10:25		

QC Batch: 8070053 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (8070053-BLK1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	ND	0.00270	0.00500	mg/l	1x	--	--	--	--	--	--	07/07/08 17:59	U	
LCS (8070053-BS1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.106	0.00270	0.00500	mg/l	1x	--	0.100	106%	(85-115)	--	--	07/07/08 17:59		
Duplicate (8070053-DUP1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	ND	0.00270	0.00500	mg/l	1x	ND	--	--	--	NR (20)		07/07/08 17:59	U	
Matrix Spike (8070053-MS1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.102	0.00270	0.00500	mg/l	1x	ND	0.100	102%	(75-125)	--	--	07/07/08 17:59		
Matrix Spike Dup (8070053-MSD1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.102	0.00270	0.00500	mg/l	1x	ND	0.100	102%	(75-125)	0.489% (20)		07/07/08 17:59		

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PBS Engineering
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Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Conventional Chemistry Parameters per Standard Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060978 Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060978-BLK1)										Extracted: 06/26/08 08:56				
Bicarbonate Alkalinity	SM 2320B	ND	0.320	5.00	mg/L as CaCO3	1x	--	--	--	--	--	--	06/27/08 10:32	U
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U
Total Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U

LCS (8060978-BS1)

Extracted: 06/26/08 08:56

Total Alkalinity	SM 2320B	197	0.320	5.00	mg/L as CaCO3	1x	--	200	98.6%	(90-110)	--	--	06/27/08 10:32	
Bicarbonate Alkalinity	"	92.2	0.320	5.00	"	"	--	100	92.2%	"	--	--	"	
Carbonate Alkalinity	"	105	0.320	5.00	"	"	--	"	105%	"	--	--	"	

Duplicate (8060978-DUP1)

QC Source: PRF0882-07

Extracted: 06/26/08 08:56

Bicarbonate Alkalinity	SM 2320B	40.7	0.320	5.00	mg/L as CaCO3	1x	41.8	--	--	--	2.57%	(20)	06/27/08 10:32	
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	ND	--	--	--	NR	"	"	U
Total Alkalinity	"	40.7	0.320	5.00	"	"	41.8	--	--	--	2.57%	"	"	
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	ND	--	--	--	NR	"	"	U

QC Batch: 8060986

Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060986-BLK1)										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	ND	3.10	10.0	mg/l	1x	--	--	--	--	--	--	06/26/08 17:28	U
LCS (8060986-BS1)										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	60.0	3.10	10.0	mg/l	1x	--	50.0	120%	(80-120)	--	--	06/26/08 17:28	
Duplicate (8060986-DUP1)										QC Source: PRF0904-01				
										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	16.0	1.24	4.00	mg/l	1x	16.0	--	--	--	0.00%	(20)	06/26/08 17:28	

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Richard D. Reid, Project Manager

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Amended Report

PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/14/08 14:32
--	---	-----------------------------------

Anions per EPA Method 300.0 - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060887 Water Preparation Method: Wet Chem

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060887-BLK1)								Extracted: 06/24/08 10:20						
Sulfate	EPA 300.0	ND	0.198	1.00	mg/l	1x	--	--	--	--	--	--	06/24/08 12:26	U
Chloride	"	0.0500	0.0270	0.500	"	"	--	--	--	--	--	--	"	J
LCS (8060887-BS1)								Extracted: 06/24/08 10:20						
Chloride	EPA 300.0	10.2	0.0270	0.500	mg/l	1x	--	10.0	102%	(90-110)	--	--	06/24/08 12:40	
Sulfate	"	31.7	0.198	1.00	"	"	--	30.0	106%	"	--	--	"	
Duplicate (8060887-DUP1)				QC Source: PRF0842-06				Extracted: 06/24/08 10:20						
Chloride	EPA 300.0	1.49	0.0270	0.500	mg/l	1x	1.50	--	--	--	0.669% (20)	--	06/24/08 11:29	
Sulfate	"	0.750	0.198	1.00	"	"	ND	--	--	--	"	"	"	J
Matrix Spike (8060887-MS1)				QC Source: PRF0842-06				Extracted: 06/24/08 10:20						
Sulfate	EPA 300.0	5.26	0.220	1.11	mg/l	1x	ND	4.44	118%	(80-120)	--	--	06/24/08 11:43	
Chloride	"	3.70	0.0300	0.556	"	"	1.50	2.22	99.0%	"	--	--	"	
Matrix Spike Dup (8060887-MSD1)				QC Source: PRF0842-06				Extracted: 06/24/08 10:20						
Chloride	EPA 300.0	3.70	0.0300	0.556	mg/l	1x	1.50	2.22	99.0%	(80-120)	0.00% (20)	--	06/24/08 11:57	
Sulfate	"	5.28	0.220	1.11	"	"	ND	4.44	119%	"	0.422%	"	"	

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PBS Engineering
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 Portland, OR 97239

Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8F26022 Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8F26022-BLK1)								Extracted: 06/25/08 09:52						
Nitrite-Nitrogen	EPA 353.2	ND	---	0.0100	mg/l as N	1x	--	--	--	--	--	--	06/25/08 10:06	C
LCS (8F26022-BS1)								Extracted: 06/25/08 09:52						
Nitrite-Nitrogen	EPA 353.2	1.09	---	0.0100	mg/l as N	1x	--	1.00	109%	(90-110)	--	--	06/25/08 10:06	C8
Duplicate (8F26022-DUP1)				QC Source: PRF0842-03				Extracted: 06/25/08 09:52						
Nitrite-Nitrogen	EPA 353.2	ND	---	0.0100	mg/l as N	1x	ND	--	--	--	(20)	--	06/25/08 10:06	C
Matrix Spike (8F26022-MS1)				QC Source: PRF0842-03				Extracted: 06/25/08 09:52						
Nitrite-Nitrogen	EPA 353.2	1.13	---	0.0100	mg/l as N	1x	ND	1.00	113%	(75-125)	--	--	06/25/08 10:06	C8

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering
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Project Name: **Camp Bonneville, WA**
 Project Number: Camp Bonneville, WA
 Project Manager: Andrew Harvey

Report Created:
 07/14/08 14:32

Total Organic Carbon, Combustion or Oxidation - Laboratory Quality Control Results
 TestAmerica Tacoma

QC Batch: 33844 **Water Preparation Method: NA**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (580-33844-1)			QC Source:					Extracted: 07/08/08 13:40						
Total Organic Carbon	415.1	ND	---	1.0	mg/L	1x	--	--	--	--	--	--	07/08/08 13:40	
LCS (580-33844-2)			QC Source:					Extracted: 07/08/08 13:40						
Total Organic Carbon	415.1	13.9	---	1.0	mg/L	1x	--	15.0	93%	(80-120)	--	--	07/08/08 13:40	
Duplicate (580-33844-7)			QC Source: 580-33844-6					Extracted: 07/08/08 13:40						
Total Organic Carbon	415.1	ND	---	1.0	mg/L	1x	ND	--	--	--	NC% (20)	--	07/08/08 13:40	
Matrix Spike (580-33844-8)			QC Source: 580-33844-6					Extracted: 07/08/08 13:40						
Total Organic Carbon	415.1	10.3	---	1.0	mg/L	1x	ND	10.0	103%	(49-142)	--	--	07/08/08 13:40	
Matrix Spike Dup (580-33844-9)			QC Source: 580-33844-6					Extracted: 07/08/08 13:40						
Total Organic Carbon	415.1	10.6	---	1.0	mg/L	1x	ND	10.0	106%	(49-142)	3%	(13)	07/08/08 13:40	

TestAmerica Portland



Richard D. Reid, Project Manager

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Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Total Organic Carbon, Combustion or Oxidation Diss - Laboratory Quality Control Results
TestAmerica Tacoma

QC Batch: 33933 Water Preparation Method: NA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (580-33933-1)			QC Source:					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	ND	---	1.0	mg/L	1x	--	--	--	--	--	--	07/09/08 15:41	
LCS (580-33933-2)			QC Source:					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	16.4	---	1.0	mg/L	1x	--	15.0	109%	(80-120)	--	--	07/09/08 15:41	
Duplicate (580-33933-7)			QC Source: 580-33933-6					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	ND	---	1.0	mg/L	1x	ND	--	--	--	NC% (20)	--	07/09/08 15:41	
Matrix Spike (580-33933-8)			QC Source: 580-33933-6					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	11.3	---	1.0	mg/L	1x	ND	10.0	113%	(49-142)	--	--	07/09/08 15:41	
Matrix Spike Dup (580-33933-9)			QC Source: 580-33933-6					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	11.5	---	1.0	mg/L	1x	ND	10.0	115%	(49-142)	2%	(13)	07/09/08 15:41	

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Richard D. Reid, Project Manager

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PBS Engineering
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Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

EPA-DW1 314.0 - Laboratory Quality Control Results
TestAmerica Denver

QC Batch: 8191165 WATER Preparation Method: 314

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F260324006D)			QC Source: D8F260324006					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.94	---	1	ug/L	1x	ND	10	99%	(80-120)	0.33%	(15)	07/08/08 22:24		
Matrix Spike (D8F260324006S)			QC Source: D8F260324006					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.9	---	1	ug/L	1x	ND	10	99%	(80-120)	--	--	07/08/08 22:03		
Blank (D8G090000165B)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/08/08 17:08		
LCS (D8G090000165C)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.43	---	1	ug/L	1x	--	10	94%	(85-115)	--	--	07/08/08 16:26		
LCS Dup (D8G090000165L)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.51	---	1	ug/L	1x	--	10	95%	(85-115)	0.82%	(15)	07/08/08 16:47		

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

SW846 8330 - Laboratory Quality Control Results
TestAmerica Denver

QC Batch: 8177628 WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (D8F25000628B)			QC Source:				Extracted: 06/25/08 18:30							
2,4,6-Trinitrotoluene	SW846 8330	ND	---	0.4	ug/L	1x	--	--	--	--	--	--	06/28/08 07:26	
Picric Acid	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
RDX	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
1,3,5-Trinitrobenzene	"	ND	---	1	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
1,3-Dinitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
Tetryl	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
2-Amino-4,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
4-Amino-2,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
2-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
4-Nitrotoluene	"	ND	---	1	"	"	--	--	--	--	--	--	"	
3-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
HMX	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
Nitroglycerin	"	ND	---	3	"	"	--	--	--	--	--	--	"	
PETN	"	ND	---	2	"	"	--	--	--	--	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene Recovery: 101% Limits: 75-118% " 06/28/08 07:26

LCS (D8F25000628C)

LCS (D8F25000628C)			QC Source:				Extracted: 06/25/08 18:30							
Picric Acid	SW846 8330	1.72	---	0.4	ug/L	1x	--	2	86%	(50-150)	--	--	06/28/08 07:47	
2,4,6-Trinitrotoluene	"	1.98	---	0.4	"	"	--	"	99%	(73-116)	--	--	"	
1,3,5-Trinitrobenzene	"	1.88	---	1	"	"	--	"	94%	(73-122)	--	--	"	
RDX	"	2.05	---	0.2	"	"	--	"	102%	(69-118)	--	--	"	
2,4-Dinitrotoluene	"	1.94	---	0.4	"	"	--	"	97%	(75-115)	--	--	"	
2,6-Dinitrotoluene	"	1.96	---	0.2	"	"	--	"	98%	(77-115)	--	--	"	
1,3-Dinitrobenzene	"	2.03	---	0.4	"	"	--	"	101%	(78-115)	--	--	"	
Tetryl	"	2.18	---	0.2	"	"	--	"	109%	(69-127)	--	--	"	
2-Amino-4,6-dinitrotoluene	"	1.85	---	0.2	"	"	--	"	92%	(75-115)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	1.81	---	0.2	"	"	--	"	90%	(57-115)	--	--	"	
4-Nitrotoluene	"	1.36	---	1	"	"	--	"	68%	(40-115)	--	--	"	
2-Nitrotoluene	"	1.01	---	0.4	"	"	--	"	50%	(35-115)	--	--	"	
HMX	"	2.04	---	0.4	"	"	--	"	102%	(78-115)	--	--	"	
3-Nitrotoluene	"	1.44	---	0.4	"	"	--	"	72%	(30-115)	--	--	"	
Nitrobenzene	"	1.16	---	0.4	"	"	--	"	58%	(51-115)	--	--	"	
Nitroglycerin	"	19.3	---	3	"	"	--	20	96%	(71-126)	--	--	"	
PETN	"	17.7	---	2	"	"	--	"	88%	(67-107)	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene Recovery: 100% Limits: 75-118% " 06/28/08 07:47

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

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Amended Report

PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

SW846 8330 - Laboratory Quality Control Results
TestAmerica Denver

QC Batch: 8177628 WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS Dup (D8F250000628L)			QC Source:				Extracted: 06/25/08 18:30							
Picric Acid	SW846 8330	1.54	---	0.4	ug/L	1x	--	2	77%	(50-150)	12%	(30)	06/28/08 08:08	
2,4,6-Trinitrotoluene	"	2.06	---	0.4	"	"	--	"	103%	(73-116)	3.8%	(19)	"	
RDX	"	2.16	---	0.2	"	"	--	"	108%	(69-118)	5.4%	(37)	"	
2,4-Dinitrotoluene	"	1.98	---	0.4	"	"	--	"	99%	(75-115)	2.4%	(21)	"	
1,3,5-Trinitrobenzene	"	1.93	---	1	"	"	--	"	97%	(73-122)	2.9%	"	"	
2,6-Dinitrotoluene	"	2.06	---	0.2	"	"	--	"	103%	(77-115)	4.5%	(20)	"	
Tetryl	"	2.25	---	0.2	"	"	--	"	112%	(69-127)	2.9%	(24)	"	
1,3-Dinitrobenzene	"	2.13	---	0.4	"	"	--	"	106%	(78-115)	4.9%	(19)	"	
4-Amino-2,6-dinitrotoluene	"	1.87	---	0.2	"	"	--	"	94%	(57-115)	3.6%	(22)	"	
2-Amino-4,6-dinitrotoluene	"	1.93	---	0.2	"	"	--	"	97%	(75-115)	4.4%	(18)	"	
4-Nitrotoluene	"	1.24	---	1	"	"	--	"	62%	(40-115)	9.5%	(44)	"	
2-Nitrotoluene	"	0.842	---	0.4	"	"	--	"	42%	(35-115)	18%	(43)	"	
HMX	"	2.14	---	0.4	"	"	--	"	107%	(78-115)	4.6%	(26)	"	
3-Nitrotoluene	"	1.3	---	0.4	"	"	--	"	65%	(30-115)	10%	(74)	"	
Nitrobenzene	"	1.12	---	0.4	"	"	--	"	56%	(51-115)	4.2%	(32)	"	
Nitroglycerin	"	19.9	---	3	"	"	--	20	99%	(71-126)	3%	(21)	"	
PETN	"	18	---	2	"	"	--	"	90%	(67-107)	1.8%	(30)	"	

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 103%

Limits: 75-118% "

06/28/08 08:08

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Amended Report

PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/14/08 14:32

Notes and Definitions

Report Specific Notes:

- C - Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
- C8 - Calibration Verification recovery was above the method control limit for this analyte. A high bias may be indicated.
- D - Data reported from a preparation or analytical dilution.
- J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- U - Analyte included in the analysis but not detected.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Richard D. Reid, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



CHAIN OF CUSTODY REPORT

Work Order #: **PRF0842**

CLIENT: PBS/ Baker
 REPORT TO: andrew_harvey@pbsenv.com & christina_johnson@pbsenv.com
 and appropriate personnel at Baker
 ADDRESS: Portland, Oregon
 PHONE: (503)-417-7693 FAX:

INVOICE TO: Baker
 P.O. NUMBER:

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses
 10 7 5 4 3 2 1 <1

STD. Petroleum Hydrocarbon Analyses
 5 4 3 2 1 <1

STD. OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

PROJECT NAME: Camp Bonneville GW Sampling
 PROJECT NUMBER: 70489 Task 6212
 SAMPLED BY: Barb Lary

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME		Total Metals + Hg	Dissolved Metals, Hg	VOCs + TICs by 8260B	SVOCs + TICs by 8270	NWTPH-DX	NWTPH-GX	Explosives, NG, PETN by 8330	Picric Acid 8303	Perchlorate by 314.1	TOC 415.1 & nitrate 353.2	DOC by 415.1	TSS, Alkalinity, chloride, nitrite, sulfate, pH	MATRIX (W, S, O)	# OF CONT.	COMMENTS/SAMPLER'S INITIAL	NCA WO ID
	W	1																
1 TB 229	6/23/08	9:30			X										W	1		
2 19LC MW01DW		10:50	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
3 19LC MW01SW		12:30	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
4 19LC MW02DW		14:15	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
5 19LC MW02SW		15:15	X	X	X	X	X	X	X	X	X	X	X	X	N	22		
6 19LC MW03DW		16:45	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
7																		
8																		
9																		
10																		
11																		
12																		
13																		

RELINQUISHED BY: *Barbara E. Lary* DATE: *6/23/08* RECEIVED BY: *[Signature]* DATE: *06-24-08*
 PRINT NAME: **BARBARA E. LARY** FIRM: **PBS** TIME: *0845* PRINT NAME: *Comp. SJ nuper* FIRM: *TAB* TIME: *0845*
 RELINQUISHED BY: *InLab* DATE: *06-24-08* RECEIVED BY: DATE:
 PRINT NAME: *InLab* FIRM: *TAB* TIME: *0930* PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: *5 COOLERS!* *VOCS ARE ALL IN 1 COOLER w/ TB.* TEMP: *3.5 C* PAGE 1 OF 1
1.7 C
2.6 C 2.4

TestAmerica Sample Receipt Checklist

Cooler Temp:

Received by:

Unpacked by:

Logged-in by:

Work Order No. PRF0842

(section A)

(section B)

Date: 6/24/08

Date: 6/24/08

Date: 6/24/08

Client: PBS

Time: 0930

Initials: BLE

Initials: MP

Project: CAMP BONNEVILLE

Temperature out of range

Initials: ES

***ESI Clients (see Section C)

Cooler Temperature (IR): _____ °C plastic glass NA (oil/air OR ESI client)

Temperature Blank: 2.5°C DIGI #1 #2

2.5°C 2.4 #1
 Not enough ice
 No ice
 Ice Melted
 Win 4 Hours
 Other:
2.5°C 2.4 #1

A Custody Seals: (# _____)

B

Signature: Y N Dated: _____

None

Received from:

TA Courier

____ Senvoy

____ UPS

____ Fed Ex

____ Client

____ TDP

____ USPS

____ SDS

____ Mid-Valley

____ GS/TA

____ GS/Senvoy

____ Other: _____

Container Type:

5 #Cooler(s)

____ #Box(s)

____ None (____ #Other: _____)

Coolant Type:

____ Gel/ Blue Ice

Loose Ice

____ None

Packing Material:

____ Bubble Bags

____ Styrofoam Cubbies

____ Peanuts

None (____ Other: _____)

Sample Status:

(If N circled, see NOD)

General:

Intact? Y N

Containers Match COC? Y N none given

IDs Match COC? Y N

For Analyses Requested:

Cyanide checked? Y N NA

Correct Type & Preservation? Y N

Adequate Volume? Y N

Within Hold Time? Y N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N NA

TB on COC? not provided Y N NA

Metals:

HNO3 Preserved? Y N NA

Dissolved Metals Filtered? Y N NA

C ***ESI Clients Only:

Temperature Blank: _____ °C not provided DIGI #1 #2

All preserved bottles checked Y N NA (voas/soils/all unp.)

All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Comments:

No OC volume for DX analysis

Project Managers:

PM Reviewed: _____ (Initial/Date)

July 18, 2008

Barb Lary
PBS Engineering - Vancouver
1310 Main Street
Vancouver, WA 98660

RE: Camp Bonneville, WA

Enclosed are the results of analyses for samples received by the laboratory on 06/26/08 17:45.
The following list is a summary of the Work Orders contained in this report, generated on 07/17/08
14:39.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PRF0965	Camp Bonneville, WA	Camp Bonneville, WA

TestAmerica Portland



Richard D. Reid, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB229	PRF0965-01	Water	06/25/08 09:30	06/26/08 17:45
19L4MW01AW	PRF0965-02	Water	06/25/08 09:45	06/26/08 17:45
19L4MW01BW	PRF0965-03	Water	06/25/08 10:55	06/26/08 17:45
19L4MW05AW	PRF0965-04	Water	06/25/08 12:00	06/26/08 17:45
19L4MW03BW	PRF0965-05	Water	06/25/08 13:40	06/26/08 17:45
19L4MW03AW	PRF0965-06	Water	06/25/08 14:55	06/26/08 17:45
19L4MW465W	PRF0965-07	Water	06/25/08 15:10	06/26/08 17:45
19L4MW07BW	PRF0965-08	Water	06/25/08 16:10	06/26/08 17:45

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-01 (TB229)										
				Water			Sampled: 06/25/08 09:30			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 16:10	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-01 (TB229)				Water		Sampled: 06/25/08 09:30				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 16:10	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	0.180	0.160	5.00	"	"	"	"	"	J
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>100%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>104%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>104%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-02 (19L4MW01AW)		Water			Sampled: 06/25/08 09:45					
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 17:06	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0965-02 (19L4MW01AW)		Water				Sampled: 06/25/08 09:45					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 17:06	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

Surrogate(s):	4-BFB	100%	80 - 120 %	"	"
	1,2-DCA-d4	105%	80 - 120 %	"	"
	Dibromofluoromethane	102%	80 - 120 %	"	"
	Toluene-d8	105%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-03 (19L4MW01BW)		Water			Sampled: 06/25/08 10:55					
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:02	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-03 (19L4MW01BW)				Water			Sampled: 06/25/08 10:55			
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:02	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>99.2%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-04 (19L4MW05AW)				Water			Sampled: 06/25/08 12:00			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:29	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-04 (19L4MW05AW)		Water				Sampled: 06/25/08 12:00				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:29	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	0.390	0.110	1.00	"	"	"	"	"	J
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>97.3%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>99.8%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-05 (19L4MW03BW)		Water			Sampled: 06/25/08 13:40					
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:57	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0965-05 (19L4MW03BW)		Water				Sampled: 06/25/08 13:40					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:57	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>94.6%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>97.9%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-06 (19L4MW03AW)		Water			Sampled: 06/25/08 14:55					
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:25	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0965-06 (19L4MW03AW)		Water				Sampled: 06/25/08 14:55					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:25	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

Surrogate(s):	4-BFB	95.1%	80 - 120 %	"	"
	1,2-DCA-d4	100%	80 - 120 %	"	"
	Dibromofluoromethane	97.7%	80 - 120 %	"	"
	Toluene-d8	101%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-07 (19L4MW465W)		Water			Sampled: 06/25/08 15:10					
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:52	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created: 07/17/08 14:39
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Barb Lary	

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-07 (19L4MW465W)		Water			Sampled: 06/25/08 15:10					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:52	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>98.0%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-08 (19L4MW07BW)				Water			Sampled: 06/25/08 16:10			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:20	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-08 (19L4MW07BW)				Water			Sampled: 06/25/08 16:10			
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:20	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>96.6%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:
 07/17/08 14:39

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.)

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-01 (TB229)				Water			Sampled: 06/25/08 09:30			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 16:10	U
PRF0965-02 (19L4MW01AW)				Water			Sampled: 06/25/08 09:45			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 17:06	U
PRF0965-03 (19L4MW01BW)				Water			Sampled: 06/25/08 10:55			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:02	U
PRF0965-04 (19L4MW05AW)				Water			Sampled: 06/25/08 12:00			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:29	U
PRF0965-05 (19L4MW03BW)				Water			Sampled: 06/25/08 13:40			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 18:57	U
PRF0965-06 (19L4MW03AW)				Water			Sampled: 06/25/08 14:55			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:25	U
PRF0965-07 (19L4MW465W)				Water			Sampled: 06/25/08 15:10			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 19:52	U
PRF0965-08 (19L4MW07BW)				Water			Sampled: 06/25/08 16:10			
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:20	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created: 07/17/08 14:39
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Barb Lary	

EPA-DW1 314.0
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-02 (19L4MW01AW)				Water			Sampled: 06/25/08 09:45			
Perchlorate	EPA-DW1 314.0	2	----	1	ug/L	1x	8192393	07/09/08 15:54	07/09/08 18:23	
PRF0965-03 (19L4MW01BW)				Water			Sampled: 06/25/08 10:55			
Perchlorate	EPA-DW1 314.0	0.59	----	1	ug/L	1x	8192393	07/09/08 15:54	07/09/08 18:44	B
PRF0965-04 (19L4MW05AW)				Water			Sampled: 06/25/08 12:00			
Perchlorate	EPA-DW1 314.0	37	----	1	ug/L	1x	8192393	07/09/08 15:54	07/09/08 19:05	
PRF0965-05 (19L4MW03BW)				Water			Sampled: 06/25/08 13:40			
Perchlorate	EPA-DW1 314.0	39	----	1	ug/L	1x	8192393	07/09/08 15:54	07/09/08 19:26	
PRF0965-06 (19L4MW03AW)				Water			Sampled: 06/25/08 14:55			
Perchlorate	EPA-DW1 314.0	86	----	5	ug/L	5x	8192393	07/09/08 15:54	07/10/08 08:05	D
PRF0965-07 (19L4MW465W)				Water			Sampled: 06/25/08 15:10			
Perchlorate	EPA-DW1 314.0	86	----	5	ug/L	5x	8192393	07/09/08 15:54	07/10/08 08:26	D
PRF0965-08 (19L4MW07BW)				Water			Sampled: 06/25/08 16:10			
Perchlorate	EPA-DW1 314.0	2.3	----	1	ug/L	1x	8192393	07/09/08 15:54	07/09/08 21:11	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-02 (19L4MW01AW)				Water			Sampled: 06/25/08 09:45			
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 17:25	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	0.12	----	0.2	"	"	"	"	"	J
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				104%		75 - 118 %	"		"	

PRF0965-03 (19L4MW01BW)				Water			Sampled: 06/25/08 10:55			
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 17:49	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	ND	----	0.2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PRF0965-03 (19L4MW01BW)		Water				Sampled: 06/25/08 10:55				
Tetryl	SW846 8330	ND	----	0.2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 17:49	
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				104%		75 - 118 %	"			"

PRF0965-04 (19L4MW05AW)		Water				Sampled: 06/25/08 12:00				
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 18:13	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	3.8	----	0.2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	0.32	----	0.4	"	"	"	"	"	J
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				100%		75 - 118 %	"			"

PRF0965-05 (19L4MW03BW)		Water				Sampled: 06/25/08 13:40				
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 18:37	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	0.14	----	0.4	"	"	"	"	"	J, COL
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	5	----	0.2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0965-05 (19L4MW03BW)		Water			Sampled: 06/25/08 13:40					
4-Amino-2,6-dinitrotoluene	SW846 8330	ND	----	0.2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 18:37	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	

Surrogate(s): 1,2-Dinitrobenzene

131%

75 - 118 %

"

"

*

PRF0965-06 (19L4MW03AW)		Water			Sampled: 06/25/08 14:55					
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 19:01	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	11	----	0.2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	0.47	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	

Surrogate(s): 1,2-Dinitrobenzene

110%

75 - 118 %

"

"

PRF0965-07 (19L4MW465W)		Water			Sampled: 06/25/08 15:10					
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 19:25	
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
RDX	"	11	----	0.2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0965-07 (19L4MW465W)		Water			Sampled: 06/25/08 15:10						
2,4-Dinitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8182428	06/30/08 18:00	07/03/08 19:25		
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"		
HMX	"	0.4	----	0.4	"	"	"	"	"		
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"		
Nitroglycerin	"	ND	----	3	"	"	"	"	"		
Tetryl	"	ND	----	0.2	"	"	"	"	"		

Surrogate(s): 1,2-Dinitrobenzene 103% 75 - 118 % " "

PRF0965-08 (19L4MW07BW)		Water			Sampled: 06/25/08 16:10						
PETN	SW846 8330	ND	----	2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 19:49		
1,3,5-Trinitrobenzene	"	ND	----	1	"	"	"	"	"		
Picric Acid	"	ND	----	0.4	"	"	"	"	"		
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"		
RDX	"	ND	----	0.2	"	"	"	"	"		
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"		
HMX	"	ND	----	0.4	"	"	"	"	"		
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"		
Nitroglycerin	"	ND	----	3	"	"	"	"	"		
Tetryl	"	ND	----	0.2	"	"	"	"	"		

Surrogate(s): 1,2-Dinitrobenzene 110% 75 - 118 % " "

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:
07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)													Extracted: 07/08/08 12:44	
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U
Benzene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	--	--	--	--	--	--	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Bromoform	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromomethane	"	ND	0.170	5.00	"	"	--	--	--	--	--	--	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	--	--	--	--	--	--	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	--	--	--	--	--	--	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	--	--	--	--	--	--	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	--	--	--	--	--	--	"	U
Chloroethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Chloroform	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	--	--	--	--	--	--	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	--	--	--	--	--	--	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,3-Dichloropropene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)													Extracted: 07/08/08 12:44	
Hexachlorobutadiene	EPA 8260B	ND	0.210	4.00	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U
2-Hexanone	"	ND	3.62	10.0	"	"	--	--	--	--	--	--	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	--	--	--	--	--	--	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	--	--	--	--	--	--	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	--	--	--	--	--	--	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Methylene chloride	"	0.180	0.160	5.00	"	"	--	--	--	--	--	--	"	J
Naphthalene	"	0.220	0.0900	2.00	"	"	--	--	--	--	--	--	"	J
n-Propylbenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Styrene	"	ND	0.0400	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Toluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichlorobenzene	"	0.230	0.100	1.00	"	"	--	--	--	--	--	--	"	J
1,2,4-Trichlorobenzene	"	0.110	0.110	1.00	"	"	--	--	--	--	--	--	"	J
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	--	--	--	--	--	--	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>Recovery:</i>	<i>100%</i>	<i>Limits:</i>	<i>80-120%</i>	<i>"</i>	<i>07/08/08 15:15</i>
	<i>1,2-DCA-d4</i>		<i>103%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>		<i>100%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>		<i>103%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8070229-BS1)

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	19.2	0.0900	1.00	ug/l	1x	--	20.0	96.2%	(80-120)	--	--	07/08/08 13:18	
Chlorobenzene	"	19.3	0.0500	1.00	"	"	--	"	96.4%	(80-124)	--	--	"	
1,1-Dichloroethene	"	18.7	0.120	1.00	"	"	--	"	93.4%	(78-120)	--	--	"	
Toluene	"	19.3	0.110	1.00	"	"	--	"	96.5%	(80-124)	--	--	"	
Trichloroethene	"	18.6	0.0800	1.00	"	"	--	"	92.8%	(80-132)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 106%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 13:18</i>		
<i>1,2-DCA-d4</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>104%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike (8070229-MS1)

QC Source: PRF0965-02

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	18.5	0.0900	1.00	ug/l	1x	ND	20.0	92.4%	(80-124)	--	--	07/08/08 13:50	
Chlorobenzene	"	18.7	0.0500	1.00	"	"	ND	"	93.6%	(72.9-134)	--	--	"	
1,1-Dichloroethene	"	17.5	0.120	1.00	"	"	ND	"	87.4%	(79.3-127)	--	--	"	
Toluene	"	18.3	0.110	1.00	"	"	ND	"	91.4%	(79.7-131)	--	--	"	
Trichloroethene	"	17.9	0.0800	1.00	"	"	ND	"	89.5%	(68.4-130)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 103%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 13:50</i>		
<i>1,2-DCA-d4</i>		<i>98.2%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>102%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike Dup (8070229-MSD1)

QC Source: PRF0965-02

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	17.6	0.0900	1.00	ug/l	1x	ND	20.0	87.8%	(80-124)	5.05% (25)		07/08/08 14:19	
Chlorobenzene	"	17.7	0.0500	1.00	"	"	ND	"	88.6%	(72.9-134)	5.44%	"	"	
1,1-Dichloroethene	"	17.0	0.120	1.00	"	"	ND	"	85.1%	(79.3-127)	2.61%	"	"	
Toluene	"	17.4	0.110	1.00	"	"	ND	"	87.2%	(79.7-131)	4.70%	"	"	
Trichloroethene	"	16.9	0.0800	1.00	"	"	ND	"	84.4%	(68.4-130)	5.92%	"	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 105%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 14:19</i>		
<i>1,2-DCA-d4</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8070229 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)										Extracted: 07/08/08 12:44				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Barb Lary	Report Created: 07/17/08 14:39
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EPA-DW1 314.0 - Laboratory Quality Control Results
TestAmerica Denver

QC Batch: 8192393 WATER Preparation Method: 314

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F280188002D)			QC Source: D8F280188002					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	278	---	1	ug/L	1x	160	100	113%	(80-120)	7.3%	(15)	07/09/08 18:02		
Matrix Spike (D8F280188002S)			QC Source: D8F280188002					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	258	---	1	ug/L	1x	160	100	94%	(80-120)	--	--	07/09/08 17:41		
Blank (D8G100000393B)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/09/08 16:36		
LCS (D8G100000393C)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	9.77	---	1	ug/L	1x	--	10	98%	(85-115)	--	--	07/09/08 15:54		
LCS Dup (D8G100000393L)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	9.76	---	1	ug/L	1x	--	10	98%	(85-115)	0.09%	(15)	07/09/08 16:15		

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:39

SW846 8330 - Laboratory Quality Control Results

TestAmerica Denver

QC Batch: 8182428

WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F260324006D)			QC Source: D8F260324006					Extracted: 06/30/08 18:00							
PETN	SW846 8330	21.3	---	2	ug/L	1x	ND	20.1	106%	(67-107)	1.7%	(30)	07/03/08 15:28		
1,3,5-Trinitrobenzene	"	2.09	---	1	"	"	ND	2.01	104%	(73-122)	2.7%	(21)	"		
Picric Acid	"	1.87	---	0.4	"	"	ND	"	93%	(50-150)	8.5%	(30)	"		
1,3-Dinitrobenzene	"	2.08	---	0.4	"	"	ND	"	104%	(78-115)	1.9%	(19)	"		
RDX	"	2.2	---	0.2	"	"	ND	"	109%	(69-118)	3.2%	(37)	"		
2,4,6-Trinitrotoluene	"	2.2	---	0.4	"	"	ND	"	110%	(73-116)	2.6%	(19)	"		
2,4-Dinitrotoluene	"	2.17	---	0.4	"	"	ND	"	108%	(75-115)	1.5%	(21)	"		
2,6-Dinitrotoluene	"	2.21	---	0.2	"	"	ND	"	110%	(77-115)	3.7%	(20)	"		
2-Amino-4,6-dinitrotoluene	"	2.05	---	0.2	"	"	ND	"	102%	(75-115)	2.1%	(18)	"		
2-Nitrotoluene	"	1.45	---	0.4	"	"	ND	"	72%	(35-115)	17%	(43)	"		
3-Nitrotoluene	"	1.74	---	0.4	"	"	ND	"	87%	(30-115)	5.3%	(74)	"		
4-Amino-2,6-dinitrotoluene	"	1.94	---	0.2	"	"	ND	"	97%	(57-115)	3.7%	(22)	"		
4-Nitrotoluene	"	1.74	---	1	"	"	ND	"	87%	(40-115)	7.9%	(44)	"		
HMX	"	2.26	---	0.4	"	"	ND	"	112%	(78-115)	3.9%	(26)	"		
Nitrobenzene	"	1.52	---	0.4	"	"	ND	"	75%	(51-115)	3.8%	(32)	"		
Nitroglycerin	"	22.6	---	3	"	"	ND	20.1	113%	(71-126)	2.2%	(21)	"		
Tetryl	"	2.4	---	0.2	"	"	ND	2.01	120%	(69-127)	1.9%	(24)	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 107%

Limits: 75-118% "

07/03/08 15:28

Matrix Spike (D8F260324006S)			QC Source: D8F260324006					Extracted: 06/30/08 18:00							
PETN	SW846 8330	20.9	---	2	ug/L	1x	ND	19.7	106%	(67-107)	--	--	07/03/08 15:04		
1,3,5-Trinitrobenzene	"	2.15	---	1	"	"	ND	1.97	109%	(73-122)	--	--	"		
Picric Acid	"	1.72	---	0.4	"	"	ND	"	87%	(50-150)	--	--	"		
RDX	"	2.27	---	0.2	"	"	ND	"	115%	(69-118)	--	--	"		
1,3-Dinitrobenzene	"	2.12	---	0.4	"	"	ND	"	108%	(78-115)	--	--	"		
2,4,6-Trinitrotoluene	"	2.26	---	0.4	"	"	ND	"	115%	(73-116)	--	--	"		
2,4-Dinitrotoluene	"	2.2	---	0.4	"	"	ND	"	112%	(75-115)	--	--	"		
2,6-Dinitrotoluene	"	2.29	---	0.2	"	"	ND	"	117%	(77-115)	--	--	"	a	
2-Amino-4,6-dinitrotoluene	"	2.09	---	0.2	"	"	ND	"	106%	(75-115)	--	--	"		
2-Nitrotoluene	"	1.23	---	0.4	"	"	ND	"	62%	(35-115)	--	--	"		
3-Nitrotoluene	"	1.66	---	0.4	"	"	ND	"	84%	(30-115)	--	--	"		
4-Amino-2,6-dinitrotoluene	"	2.02	---	0.2	"	"	ND	"	102%	(57-115)	--	--	"		
4-Nitrotoluene	"	1.61	---	1	"	"	ND	"	82%	(40-115)	--	--	"		
HMX	"	2.35	---	0.4	"	"	ND	"	119%	(78-115)	--	--	"	a	
Nitrobenzene	"	1.46	---	0.4	"	"	ND	"	74%	(51-115)	--	--	"		
Nitroglycerin	"	23.1	---	3	"	"	ND	19.7	118%	(71-126)	--	--	"		
Tetryl	"	2.45	---	0.2	"	"	ND	1.97	125%	(69-127)	--	--	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 111%

Limits: 75-118% "

07/03/08 15:04

TestAmerica Portland



Richard D. Reid, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

PBS Engineering - Vancouver	Project Name: Camp Bonneville, WA	Report Created:
1310 Main Street	Project Number: Camp Bonneville, WA	07/17/08 14:39
Vancouver, WA 98660	Project Manager: Barb Lary	

SW846 8330 - Laboratory Quality Control Results
 TestAmerica Denver

QC Batch: 8182428 WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (D8F30000428B)			QC Source:					Extracted: 06/30/08 18:00						
PETN	SW846 8330	ND	---	2	ug/L	1x	--	--	--	--	--	--	07/03/08 11:39	
Picric Acid	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
1,3,5-Trinitrobenzene	"	ND	---	1	"	"	--	--	--	--	--	--	"	
RDX	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
1,3-Dinitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
2,4,6-Trinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
2-Amino-4,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
2-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
3-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
4-Amino-2,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	
4-Nitrotoluene	"	ND	---	1	"	"	--	--	--	--	--	--	"	
HMX	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"	
Nitroglycerin	"	ND	---	3	"	"	--	--	--	--	--	--	"	
Tetryl	"	ND	---	0.2	"	"	--	--	--	--	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene Recovery: 106% Limits: 75-118% " 07/03/08 11:39

LCS (D8F30000428C)			QC Source:					Extracted: 06/30/08 18:00						
PETN	SW846 8330	20.6	---	2	ug/L	1x	--	20	103%	(67-107)	--	--	07/03/08 12:03	
1,3,5-Trinitrobenzene	"	2.07	---	1	"	"	--	2	103%	(73-122)	--	--	"	
Picric Acid	"	1.82	---	0.4	"	"	--	"	91%	(50-150)	--	--	"	
1,3-Dinitrobenzene	"	2.05	---	0.4	"	"	--	"	103%	(78-115)	--	--	"	
RDX	"	2.17	---	0.2	"	"	--	"	109%	(69-118)	--	--	"	
2,4,6-Trinitrotoluene	"	2.14	---	0.4	"	"	--	"	107%	(73-116)	--	--	"	
2,4-Dinitrotoluene	"	2.1	---	0.4	"	"	--	"	105%	(75-115)	--	--	"	
2,6-Dinitrotoluene	"	2.17	---	0.2	"	"	--	"	109%	(77-115)	--	--	"	
2-Amino-4,6-dinitrotoluene	"	2	---	0.2	"	"	--	"	100%	(75-115)	--	--	"	
2-Nitrotoluene	"	1.18	---	0.4	"	"	--	"	59%	(35-115)	--	--	"	
3-Nitrotoluene	"	1.57	---	0.4	"	"	--	"	78%	(30-115)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	1.96	---	0.2	"	"	--	"	98%	(57-115)	--	--	"	
4-Nitrotoluene	"	1.56	---	1	"	"	--	"	78%	(40-115)	--	--	"	
HMX	"	2.21	---	0.4	"	"	--	"	110%	(78-115)	--	--	"	
Nitrobenzene	"	1.32	---	0.4	"	"	--	"	66%	(51-115)	--	--	"	
Nitroglycerin	"	21.9	---	3	"	"	--	20	109%	(71-126)	--	--	"	
Tetryl	"	2.36	---	0.2	"	"	--	2	118%	(69-127)	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene Recovery: 106% Limits: 75-118% " 07/03/08 12:03

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:39
	Project Manager:	Barb Lary	

Notes and Definitions

Report Specific Notes:

- * - Surrogate recovery is outside stated control limits.
- a - Spiked analyte recovery is outside stated control limits.
- B - Estimated result. Result is less than RL and greater than or equal to the IDL.
- COL - More than 40% RPD between primary and confirmation detector results. The lower of the two results is reported.
- D - One or more quality control criteria failed
- J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- J - Estimated result. Result is less than RL.
- U - Analyte included in the analysis but not detected.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Richard D. Reid, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

CHAIN OF CUSTODY REPORT

Work Order #: **PRF0965**

CLIENT: PBS/ Baker		INVOICE TO: Baker		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. Petroleum Hydrocarbon Analyses <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD. <input type="checkbox"/> OTHER Specify: _____ * Turnaround Requests less than standard may incur Rush Charges.													
REPORT TO: andrew_harvey@pbsenv.com & christina_johnson@pbsenv.com		P.O. NUMBER:															
and appropriate personnel at Baker																	
ADDRESS: Portland, Oregon																	
PHONE: (503)-417-7693 FAX:																	
PROJECT NAME: Camp Bonneville GW Sampling		REQUESTED ANALYSES															
PROJECT NUMBER: 70489 Task 6212		Total Metals + Hg	Dissolved Metals, Hg	VOCs + TICs by 8260B	SVOCs + TICs by 8270	NWTPH-Dx	NWTPH-Gx	Explosives, NG, PETN by 8330	Picric Acid 8303	Perchlorate by 314.1	TOC 415.1 & nitrate 353.2	DOC by 415.1	TSS, Alkalinity, chloride, nitrite, sulfate, pH	MATRIX (W, S, O)	# OF CONT.	COMMENTS/SAMPLER'S INITIAL	NCA WO ID
SAMPLED BY: Barb Lary																	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME																
1 TB229	6/25/08 9:30			X										W	1		
2 19L4 MW 01A W	9:45			X				X	X					W	9		
3 19L4 MW 01B W	10:55			X				X	X								
4 19L4 MW 05A W	12:00			X				X	X								
5 19L4 MW 03B W	13:40			X				X	X								
6 19L4 MW 03A W	14:55			X				X	X								
7 19L4 MW 465 W	15:10			X				X	X								
8 19L4 MW 07B W	16:10			X				X	X								
9																	
10																	
11																	
12																	
13																	

RELINQUISHED BY: *Barbara E. Lary* DATE: *6/25/08* RECEIVED BY: *Cam O'Brien* DATE: *6/26/08*
 PRINT NAME: **BARBARA E. LARY** FIRM: **PBS** TIME: TIME: *14:56* FIRM: **Apex** TIME: *17:25*
 RELINQUISHED BY: *M. Slick* DATE: *6/26/08* RECEIVED BY: *Bob F* DATE: *6/26/08*
 PRINT NAME: *M. Slick* FIRM: **Apex** TIME: *17:25* PRINT NAME: *Bob F* FIRM: **TAP** TIME: *17:25*
 ADDITIONAL REMARKS: *COOLERS w/ VOCs ALL IN 1 W/TB. Bob F TAP 6/26/08 @ 17:45*

TEMP: *54, 5.6*
 PAGE 1 OF 1

TestAmerica Sample Receipt Checklist

Cooler ID(s):

Received by: _____

Unpacked by: _____

Logged-in by: _____

Work Order No. PRF0965

(Section A)

(Section B)

Client: PBS Engineering-Vancouver

Date: 6/26/08

Date: 6/26/08

Date: 6/26/08

Project: Camp Bonneville, WA

Time: _____

Initials: _____

Initials: JL

Temperature out of range:

Initials: _____

- Not enough Ice
- No Ice
- Ice Melted
- W/in 4 Hours
- Other: _____

USE IR
6/26/08

*****ESI Clients (see Section C)**

Cooler Temperature (IR): 5.950 °C plastic glass NA (oil/air OR ESI client)

Temperature Blank: 83, 71 °C DIGI #1 #2

A Custody Seals: (# _____)

Signature: Y N Dated: _____
 None

Received from:
 TA Courier
 Senvoy
 UPS
 Fed Ex
 Client
 TDP
 USPS
 SDS
 Mid-Valley
 GS/TA
 GS/Senvoy
 Other: _____

Container Type:
 #Cooler(s)
 #Box(s)
 None (#Other: _____)

Coolant Type:
 Gel/ Blue Ice
 Loose Ice
 None

Packing Material:
 Bubble Bags
 Styrofoam Cubbies
 Peanuts
 None (#Other: _____)

B Sample Status:
(If N circled, see NOD)

General:

Intact?	Y	N	
# Containers Match COC?	Y	N	none given
IDs Match COC?	Y	N	

For Analyses Requested:

Cyanide checked?	Y	N	NA
Correct Type & Preservation?	<u>Y</u>	N	
Adequate Volume?	Y	N	
Within Hold Time?	Y	N	

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace?	Y	N	NA
TB on COC? not provided	<u>Y</u>	N	NA

Metals:

HNO3 Preserved?	Y	N	NA
Dissolved Metals Filtered?	Y	N	NA

C ***ESI Clients Only:

Temperature Blank: _____ °C not provided DIGI #1 #2

All preserved bottles checked Y N NA (voas/soils/all unp.)
 All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

PM Reviewed: _____ (Initial/Date)

July 18, 2008

Barb Lary
PBS Engineering - Vancouver
1310 Main Street
Vancouver, WA 98660

RE: Camp Bonneville, WA

Enclosed are the results of analyses for samples received by the laboratory on 06/26/08 17:45.
The following list is a summary of the Work Orders contained in this report, generated on 07/17/08
14:37.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PRF0964	Camp Bonneville, WA	Camp Bonneville, WA

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Barb Lary

Report Created:
07/17/08 14:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB229	PRF0964-01	Water	06/26/08 10:00	06/26/08 17:45
19L4MW02BW	PRF0964-02	Water	06/26/08 10:35	06/26/08 17:45
19L4MW02AW	PRF0964-03	Water	06/26/08 12:10	06/26/08 17:45
19L4MW04AW	PRF0964-04	Water	06/26/08 14:00	06/26/08 17:45

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-01 (TB229)										
				Water			Sampled: 06/26/08 10:00			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 15:42	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-01 (TB229)		Water				Sampled: 06/26/08 10:00				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 15:42	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

Surrogate(s):	4-BFB	101%	80 - 120 %	"	"
	1,2-DCA-d4	103%	80 - 120 %	"	"
	Dibromofluoromethane	100%	80 - 120 %	"	"
	Toluene-d8	103%	80 - 120 %	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-02 (19L4MW02BW)		Water				Sampled: 06/26/08 10:35				RL7
Acetone	EPA 8260B	ND	15.5	50.0	ug/l	2x	8070229	07/08/08 12:44	07/08/08 22:39	U, D
Benzene	"	ND	0.180	2.00	"	"	"	"	"	U, D
Bromobenzene	"	ND	0.200	2.00	"	"	"	"	"	U, D
Bromochloromethane	"	ND	0.360	2.00	"	"	"	"	"	U, D
Bromodichloromethane	"	ND	0.220	2.00	"	"	"	"	"	U, D
Bromoform	"	ND	0.200	2.00	"	"	"	"	"	U, D
Bromomethane	"	ND	0.340	10.0	"	"	"	"	"	U, D
2-Butanone (MEK)	"	ND	7.00	20.0	"	"	"	"	"	U, D
n-Butylbenzene	"	ND	0.120	10.0	"	"	"	"	"	U, D
sec-Butylbenzene	"	ND	0.160	2.00	"	"	"	"	"	U, D
tert-Butylbenzene	"	ND	0.120	2.00	"	"	"	"	"	U, D
Carbon disulfide	"	ND	0.280	20.0	"	"	"	"	"	U, D
Carbon tetrachloride	"	ND	0.120	2.00	"	"	"	"	"	U, D
Chlorobenzene	"	ND	0.100	2.00	"	"	"	"	"	U, D
Chloroethane	"	ND	0.220	2.00	"	"	"	"	"	U, D
Chloroform	"	ND	0.180	2.00	"	"	"	"	"	U, D
Chloromethane	"	ND	0.160	10.0	"	"	"	"	"	U, D
2-Chlorotoluene	"	ND	0.140	2.00	"	"	"	"	"	U, D
4-Chlorotoluene	"	ND	0.220	2.00	"	"	"	"	"	U, D
1,2-Dibromo-3-chloropropane	"	ND	4.70	10.0	"	"	"	"	"	U, D
Dibromochloromethane	"	ND	0.140	2.00	"	"	"	"	"	U, D
1,2-Dibromoethane	"	ND	0.220	2.00	"	"	"	"	"	U, D
Dibromomethane	"	ND	0.200	2.00	"	"	"	"	"	U, D
1,2-Dichlorobenzene	"	ND	0.140	2.00	"	"	"	"	"	U, D
1,3-Dichlorobenzene	"	ND	0.120	2.00	"	"	"	"	"	U, D
1,4-Dichlorobenzene	"	ND	0.240	2.00	"	"	"	"	"	U, D
Dichlorodifluoromethane	"	26.1	0.220	10.0	"	"	"	"	"	D
1,1-Dichloroethane	"	23.2	0.160	2.00	"	"	"	"	"	D
1,2-Dichloroethane	"	ND	0.200	2.00	"	"	"	"	"	U, D
1,1-Dichloroethene	"	9.36	0.240	2.00	"	"	"	"	"	D
cis-1,2-Dichloroethene	"	ND	0.180	2.00	"	"	"	"	"	U, D
trans-1,2-Dichloroethene	"	ND	0.200	2.00	"	"	"	"	"	U, D
1,2-Dichloropropane	"	ND	0.220	2.00	"	"	"	"	"	U, D
1,3-Dichloropropane	"	ND	0.280	2.00	"	"	"	"	"	U, D
2,2-Dichloropropane	"	ND	0.180	2.00	"	"	"	"	"	U, D
1,1-Dichloropropene	"	ND	0.160	2.00	"	"	"	"	"	U, D

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:
07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-02 (19L4MW02BW)				Water			Sampled: 06/26/08 10:35			RL7
cis-1,3-Dichloropropene	EPA 8260B	ND	0.180	2.00	ug/l	2x	8070229	07/08/08 12:44	07/08/08 22:39	U, D
trans-1,3-Dichloropropene	"	ND	0.200	2.00	"	"	"	"	"	U, D
Ethylbenzene	"	ND	0.120	2.00	"	"	"	"	"	U, D
Hexachlorobutadiene	"	ND	0.420	8.00	"	"	"	"	"	U, D
2-Hexanone	"	ND	7.24	20.0	"	"	"	"	"	U, D
Isopropylbenzene	"	0.200	0.140	4.00	"	"	"	"	"	Ja, D
p-Isopropyltoluene	"	ND	0.120	4.00	"	"	"	"	"	U, D
4-Methyl-2-pentanone	"	ND	0.580	10.0	"	"	"	"	"	U, D
Methyl tert-butyl ether	"	ND	0.180	2.00	"	"	"	"	"	U, D
Methylene chloride	"	2.58	0.320	10.0	"	"	"	"	"	Ja, D
Naphthalene	"	ND	0.180	4.00	"	"	"	"	"	U, D
n-Propylbenzene	"	0.200	0.200	2.00	"	"	"	"	"	Ja, D
Styrene	"	ND	0.0800	2.00	"	"	"	"	"	U, D
1,1,1,2-Tetrachloroethane	"	ND	0.180	2.00	"	"	"	"	"	U, D
1,1,2,2-Tetrachloroethane	"	ND	0.160	2.00	"	"	"	"	"	U, D
Tetrachloroethene	"	0.460	0.220	2.00	"	"	"	"	"	Ja, D
Toluene	"	ND	0.220	2.00	"	"	"	"	"	U, D
1,2,3-Trichlorobenzene	"	ND	0.200	2.00	"	"	"	"	"	U, D
1,2,4-Trichlorobenzene	"	ND	0.220	2.00	"	"	"	"	"	U, D
1,1,1-Trichloroethane	"	29.7	0.240	2.00	"	"	"	"	"	D
1,1,2-Trichloroethane	"	ND	0.260	2.00	"	"	"	"	"	U, D
Trichloroethene	"	0.260	0.160	2.00	"	"	"	"	"	Ja, D
Trichlorofluoromethane	"	0.220	0.120	2.00	"	"	"	"	"	Ja, D
1,2,3-Trichloropropane	"	ND	0.260	2.00	"	"	"	"	"	U, D
1,2,4-Trimethylbenzene	"	ND	0.160	2.00	"	"	"	"	"	U, D
1,3,5-Trimethylbenzene	"	ND	0.140	2.00	"	"	"	"	"	U, D
Vinyl chloride	"	ND	0.200	2.00	"	"	"	"	"	U, D
o-Xylene	"	ND	0.140	2.00	"	"	"	"	"	U, D
m,p-Xylene	"	ND	0.420	4.00	"	"	"	"	"	U, D

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>1x</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-03 (19L4MW02AW)				Water			Sampled: 06/26/08 12:10			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:48	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0964-03 (19L4MW02AW)		Water				Sampled: 06/26/08 12:10					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:48	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>96.0%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>106%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>104%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-04 (19L4MW04AW)				Water			Sampled: 06/26/08 14:00			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070229	07/08/08 12:44	07/08/08 21:16	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
 Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-04 (19L4MW04AW)		Water								
		Sampled: 06/26/08 14:00								
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 21:16	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	0.170	0.160	5.00	"	"	"	"	"	Ja
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>97.4%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>105%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>104%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created: 07/17/08 14:37
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Barb Lary	

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.)
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0964-01 (TB229)				Water			Sampled: 06/26/08 10:00				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 15:42	U	
PRF0964-02 (19L4MW02BW)				Water			Sampled: 06/26/08 10:35				RL7
Freon 113	EPA 8260B	59.1		4.00	ug/l	2x	8070229	07/08/08 12:44	07/08/08 22:39	D	
PRF0964-03 (19L4MW02AW)				Water			Sampled: 06/26/08 12:10				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 20:48	U	
PRF0964-04 (19L4MW04AW)				Water			Sampled: 06/26/08 14:00				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070229	07/08/08 12:44	07/08/08 21:16	U	

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created: 07/17/08 14:37
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Barb Lary	

EPA-DW1 314.0
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-02 (19L4MW02BW)		Water			Sampled: 06/26/08 10:35					
Perchlorate	EPA-DW1 314.0	390	----	20	ug/L	20x	8192393	07/09/08 15:54	07/09/08 16:57	D
PRF0964-03 (19L4MW02AW)		Water			Sampled: 06/26/08 12:10					
Perchlorate	EPA-DW1 314.0	160	----	10	ug/L	10x	8192393	07/09/08 15:54	07/09/08 17:18	D
PRF0964-04 (19L4MW04AW)		Water			Sampled: 06/26/08 14:00					
Perchlorate	EPA-DW1 314.0	30	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 23:27	

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:37
	Project Manager:	Barb Lary	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0964-02 (19L4MW02BW)		Water				Sampled: 06/26/08 10:35				
1,3,5-Trinitrobenzene	SW846 8330	ND	----	5	ug/L	5x	8182428	06/30/08 18:00	07/07/08 19:04	
1,3-Dinitrobenzene	"	ND	----	2	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	2	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	2	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	1	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	1	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	2	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	2	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	1	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	5	"	"	"	"	"	
HMX	"	4.1	----	2	"	"	"	"	"	
Nitrobenzene	"	ND	----	2	"	"	"	"	"	
Nitroglycerin	"	ND	----	15	"	"	"	"	"	
PETN	"	ND	----	10	"	"	"	"	"	
Picric Acid	"	2.9	----	2	"	"	"	"	"	
RDX	"	85	----	1	"	"	"	"	"	
Tetryl	"	ND	----	1	"	"	"	"	"	

Surrogate(s): 1,2-Dinitrobenzene NR 75 - 118 % " " NC, DIL

PRF0964-03 (19L4MW02AW)		Water				Sampled: 06/26/08 12:10				
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 16:37	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	3.4	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
PETN	"	ND	----	2	"	"	"	"	"	
Picric Acid	"	0.13	----	0.4	"	"	"	"	"	J, COL
RDX	"	20	----	0.2	"	"	"	"	"	

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created: 07/17/08 14:37
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Barb Lary	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PRF0964-03 (19L4MW02AW)	Water			Sampled: 06/26/08 12:10						
Tetryl	SW846 8330	ND	----	0.2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 16:37	
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				103%		75 - 118 %	"			"

PRF0964-04 (19L4MW04AW)	Water			Sampled: 06/26/08 14:00						
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 17:01	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	2.4	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				108%		75 - 118 %	"			"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)													Extracted: 07/08/08 12:44	
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U
Benzene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	--	--	--	--	--	--	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Bromoform	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromomethane	"	ND	0.170	5.00	"	"	--	--	--	--	--	--	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	--	--	--	--	--	--	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	--	--	--	--	--	--	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	--	--	--	--	--	--	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	--	--	--	--	--	--	"	U
Chloroethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Chloroform	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	--	--	--	--	--	--	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	--	--	--	--	--	--	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,3-Dichloropropene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)													Extracted: 07/08/08 12:44	
Hexachlorobutadiene	EPA 8260B	ND	0.210	4.00	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U
2-Hexanone	"	ND	3.62	10.0	"	"	--	--	--	--	--	--	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	--	--	--	--	--	--	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	--	--	--	--	--	--	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	--	--	--	--	--	--	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Methylene chloride	"	0.180	0.160	5.00	"	"	--	--	--	--	--	--	"	Ja
Naphthalene	"	0.220	0.0900	2.00	"	"	--	--	--	--	--	--	"	Ja
n-Propylbenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Styrene	"	ND	0.0400	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Toluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichlorobenzene	"	0.230	0.100	1.00	"	"	--	--	--	--	--	--	"	Ja
1,2,4-Trichlorobenzene	"	0.110	0.110	1.00	"	"	--	--	--	--	--	--	"	Ja
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	--	--	--	--	--	--	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>Recovery:</i>	<i>100%</i>	<i>Limits:</i>	<i>80-120%</i>	<i>"</i>	<i>07/08/08 15:15</i>
	<i>1,2-DCA-d4</i>		<i>103%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>		<i>100%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>		<i>103%</i>		<i>80-120%</i>	<i>"</i>	<i>"</i>

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Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070229

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8070229-BS1)

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	19.2	0.0900	1.00	ug/l	1x	--	20.0	96.2%	(80-120)	--	--	07/08/08 13:18	
Chlorobenzene	"	19.3	0.0500	1.00	"	"	--	"	96.4%	(80-124)	--	--	"	
1,1-Dichloroethene	"	18.7	0.120	1.00	"	"	--	"	93.4%	(78-120)	--	--	"	
Toluene	"	19.3	0.110	1.00	"	"	--	"	96.5%	(80-124)	--	--	"	
Trichloroethene	"	18.6	0.0800	1.00	"	"	--	"	92.8%	(80-132)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 106%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 13:18</i>		
<i>1,2-DCA-d4</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>104%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike (8070229-MS1)

QC Source: PRF0965-02

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	18.5	0.0900	1.00	ug/l	1x	ND	20.0	92.4%	(80-124)	--	--	07/08/08 13:50	
Chlorobenzene	"	18.7	0.0500	1.00	"	"	ND	"	93.6%	(72.9-134)	--	--	"	
1,1-Dichloroethene	"	17.5	0.120	1.00	"	"	ND	"	87.4%	(79.3-127)	--	--	"	
Toluene	"	18.3	0.110	1.00	"	"	ND	"	91.4%	(79.7-131)	--	--	"	
Trichloroethene	"	17.9	0.0800	1.00	"	"	ND	"	89.5%	(68.4-130)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 103%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 13:50</i>		
<i>1,2-DCA-d4</i>		<i>98.2%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>102%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike Dup (8070229-MSD1)

QC Source: PRF0965-02

Extracted: 07/08/08 12:44

Benzene	EPA 8260B	17.6	0.0900	1.00	ug/l	1x	ND	20.0	87.8%	(80-124)	5.05% (25)		07/08/08 14:19	
Chlorobenzene	"	17.7	0.0500	1.00	"	"	ND	"	88.6%	(72.9-134)	5.44%	"	"	
1,1-Dichloroethene	"	17.0	0.120	1.00	"	"	ND	"	85.1%	(79.3-127)	2.61%	"	"	
Toluene	"	17.4	0.110	1.00	"	"	ND	"	87.2%	(79.7-131)	4.70%	"	"	
Trichloroethene	"	16.9	0.0800	1.00	"	"	ND	"	84.4%	(68.4-130)	5.92%	"	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 105%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/08/08 14:19</i>		
<i>1,2-DCA-d4</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

TestAmerica Portland



Richard D. Reid, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:37
	Project Manager:	Barb Lary	

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8070229 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070229-BLK1)							Extracted: 07/08/08 12:44							
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	--	--	--	--	--	--	07/08/08 15:15	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Barb Lary	Report Created: 07/17/08 14:37
---	---	-----------------------------------

EPA-DW1 314.0 - Laboratory Quality Control Results
TestAmerica Denver

QC Batch: 8191165 WATER Preparation Method: 314

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F260324006D)			QC Source: D8F260324006					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.94	---	1	ug/L	1x	ND	10	99%	(80-120)	0.33%	(15)	07/08/08 22:24		
Matrix Spike (D8F260324006S)			QC Source: D8F260324006					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.9	---	1	ug/L	1x	ND	10	99%	(80-120)	--	--	07/08/08 22:03		
Blank (D8G090000165B)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/08/08 17:08		
LCS (D8G090000165C)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.43	---	1	ug/L	1x	--	10	94%	(85-115)	--	--	07/08/08 16:26		
LCS Dup (D8G090000165L)			QC Source:					Extracted: 07/08/08 16:26							
Perchlorate	EPA-DW1 314.0	9.51	---	1	ug/L	1x	--	10	95%	(85-115)	0.82%	(15)	07/08/08 16:47		

QC Batch: 8192393 WATER Preparation Method: 314

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F280188002D)			QC Source: PRF0964-03					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	278	---	1	ug/L	1x	160	100	113%	(80-120)	7.3%	(15)	07/09/08 18:02		
Matrix Spike (D8F280188002S)			QC Source: PRF0964-03					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	258	---	1	ug/L	1x	160	100	94%	(80-120)	--	--	07/09/08 17:41		
Blank (D8G100000393B)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/09/08 16:36		
LCS (D8G100000393C)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	9.77	---	1	ug/L	1x	--	10	98%	(85-115)	--	--	07/09/08 15:54		
LCS Dup (D8G100000393L)			QC Source:					Extracted: 07/09/08 15:54							
Perchlorate	EPA-DW1 314.0	9.76	---	1	ug/L	1x	--	10	98%	(85-115)	0.09%	(15)	07/09/08 16:15		

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver

1310 Main Street
Vancouver, WA 98660

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Barb Lary

Report Created:

07/17/08 14:37

SW846 8330 - Laboratory Quality Control Results

TestAmerica Denver

QC Batch: 8182428

WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F260324006D)			QC Source: D8F260324006					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	2.09	---	1	ug/L	1x	ND	2.01	104%	(73-122)	2.7%	(21)	07/03/08 15:28		
1,3-Dinitrobenzene	"	2.08	---	0.4	"	"	ND	"	104%	(78-115)	1.9%	(19)	"		
2,4,6-Trinitrotoluene	"	2.2	---	0.4	"	"	ND	"	110%	(73-116)	2.6%	"	"		
2,4-Dinitrotoluene	"	2.17	---	0.4	"	"	ND	"	108%	(75-115)	1.5%	(21)	"		
2,6-Dinitrotoluene	"	2.21	---	0.2	"	"	ND	"	110%	(77-115)	3.7%	(20)	"		
2-Amino-4,6-dinitrotoluene	"	2.05	---	0.2	"	"	ND	"	102%	(75-115)	2.1%	(18)	"		
2-Nitrotoluene	"	1.45	---	0.4	"	"	ND	"	72%	(35-115)	17%	(43)	"		
3-Nitrotoluene	"	1.74	---	0.4	"	"	ND	"	87%	(30-115)	5.3%	(74)	"		
4-Amino-2,6-dinitrotoluene	"	1.94	---	0.2	"	"	ND	"	97%	(57-115)	3.7%	(22)	"		
4-Nitrotoluene	"	1.74	---	1	"	"	ND	"	87%	(40-115)	7.9%	(44)	"		
HMX	"	2.26	---	0.4	"	"	ND	"	112%	(78-115)	3.9%	(26)	"		
Nitrobenzene	"	1.52	---	0.4	"	"	ND	"	75%	(51-115)	3.8%	(32)	"		
Nitroglycerin	"	22.6	---	3	"	"	ND	20.1	113%	(71-126)	2.2%	(21)	"		
PETN	"	21.3	---	2	"	"	ND	"	106%	(67-107)	1.7%	(30)	"		
Picric Acid	"	1.87	---	0.4	"	"	ND	2.01	93%	(50-150)	8.5%	"	"		
RDX	"	2.2	---	0.2	"	"	ND	"	109%	(69-118)	3.2%	(37)	"		
Tetryl	"	2.4	---	0.2	"	"	ND	"	120%	(69-127)	1.9%	(24)	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 107%

Limits: 75-118% "

07/03/08 15:28

Matrix Spike (D8F260324006S)

QC Source: D8F260324006

Extracted: 06/30/08 18:00

1,3,5-Trinitrobenzene	SW846 8330	2.15	---	1	ug/L	1x	ND	1.97	109%	(73-122)	--	--	07/03/08 15:04	
1,3-Dinitrobenzene	"	2.12	---	0.4	"	"	ND	"	108%	(78-115)	--	--	"	
2,4,6-Trinitrotoluene	"	2.26	---	0.4	"	"	ND	"	115%	(73-116)	--	--	"	
2,4-Dinitrotoluene	"	2.2	---	0.4	"	"	ND	"	112%	(75-115)	--	--	"	
2,6-Dinitrotoluene	"	2.29	---	0.2	"	"	ND	"	117%	(77-115)	--	--	"	a
2-Amino-4,6-dinitrotoluene	"	2.09	---	0.2	"	"	ND	"	106%	(75-115)	--	--	"	
2-Nitrotoluene	"	1.23	---	0.4	"	"	ND	"	62%	(35-115)	--	--	"	
3-Nitrotoluene	"	1.66	---	0.4	"	"	ND	"	84%	(30-115)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	2.02	---	0.2	"	"	ND	"	102%	(57-115)	--	--	"	
4-Nitrotoluene	"	1.61	---	1	"	"	ND	"	82%	(40-115)	--	--	"	
HMX	"	2.35	---	0.4	"	"	ND	"	119%	(78-115)	--	--	"	a
Nitrobenzene	"	1.46	---	0.4	"	"	ND	"	74%	(51-115)	--	--	"	
Nitroglycerin	"	23.1	---	3	"	"	ND	19.7	118%	(71-126)	--	--	"	
PETN	"	20.9	---	2	"	"	ND	"	106%	(67-107)	--	--	"	
Picric Acid	"	1.72	---	0.4	"	"	ND	1.97	87%	(50-150)	--	--	"	
RDX	"	2.27	---	0.2	"	"	ND	"	115%	(69-118)	--	--	"	
Tetryl	"	2.45	---	0.2	"	"	ND	"	125%	(69-127)	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 111%

Limits: 75-118% "

07/03/08 15:04

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver	Project Name: Camp Bonneville, WA	Report Created:
1310 Main Street	Project Number: Camp Bonneville, WA	07/17/08 14:37
Vancouver, WA 98660	Project Manager: Barb Lary	

SW846 8330 - Laboratory Quality Control Results
 TestAmerica Denver

QC Batch: 8182428 WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (D8F30000428B)			QC Source:					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/03/08 11:39		
1,3-Dinitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,4,6-Trinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,4-Dinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,6-Dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
2-Amino-4,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
2-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
3-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
4-Amino-2,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
4-Nitrotoluene	"	ND	---	1	"	"	--	--	--	--	--	--	"		
HMX	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
Nitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
Nitroglycerin	"	ND	---	3	"	"	--	--	--	--	--	--	"		
PETN	"	ND	---	2	"	"	--	--	--	--	--	--	"		
Picric Acid	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
RDX	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
Tetryl	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		

Surrogate(s): 1,2-Dinitrobenzene Recovery: 106% Limits: 75-118% " 07/03/08 11:39

LCS (D8F30000428C)			QC Source:					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	2.07	---	1	ug/L	1x	--	2	103%	(73-122)	--	--	07/03/08 12:03		
1,3-Dinitrobenzene	"	2.05	---	0.4	"	"	--	"	103%	(78-115)	--	--	"		
2,4,6-Trinitrotoluene	"	2.14	---	0.4	"	"	--	"	107%	(73-116)	--	--	"		
2,4-Dinitrotoluene	"	2.1	---	0.4	"	"	--	"	105%	(75-115)	--	--	"		
2,6-Dinitrotoluene	"	2.17	---	0.2	"	"	--	"	109%	(77-115)	--	--	"		
2-Amino-4,6-dinitrotoluene	"	2	---	0.2	"	"	--	"	100%	(75-115)	--	--	"		
2-Nitrotoluene	"	1.18	---	0.4	"	"	--	"	59%	(35-115)	--	--	"		
3-Nitrotoluene	"	1.57	---	0.4	"	"	--	"	78%	(30-115)	--	--	"		
4-Amino-2,6-dinitrotoluene	"	1.96	---	0.2	"	"	--	"	98%	(57-115)	--	--	"		
4-Nitrotoluene	"	1.56	---	1	"	"	--	"	78%	(40-115)	--	--	"		
HMX	"	2.21	---	0.4	"	"	--	"	110%	(78-115)	--	--	"		
Nitrobenzene	"	1.32	---	0.4	"	"	--	"	66%	(51-115)	--	--	"		
Nitroglycerin	"	21.9	---	3	"	"	--	20	109%	(71-126)	--	--	"		
PETN	"	20.6	---	2	"	"	--	"	103%	(67-107)	--	--	"		
Picric Acid	"	1.82	---	0.4	"	"	--	2	91%	(50-150)	--	--	"		
RDX	"	2.17	---	0.2	"	"	--	"	109%	(69-118)	--	--	"		
Tetryl	"	2.36	---	0.2	"	"	--	"	118%	(69-127)	--	--	"		

Surrogate(s): 1,2-Dinitrobenzene Recovery: 106% Limits: 75-118% " 07/03/08 12:03

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering - Vancouver 1310 Main Street Vancouver, WA 98660	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/17/08 14:37
	Project Manager:	Barb Lary	

Notes and Definitions

Report Specific Notes:

- a - Spiked analyte recovery is outside stated control limits.
- COL - More than 40% RPD between primary and confirmation detector results. The lower of the two results is reported.
- D - One or more quality control criteria failed
- D - Data reported from a preparation or analytical dilution.
- DIL - The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
- J - Estimated result. Result is less than RL.
- Ja - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- NC - The recovery and/or RPD were not calculated.
- RL7 - Sample required dilution due to high concentrations of target analyte.
- U - Analyte included in the analysis but not detected.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Richard D. Reid, Project Manager

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CHAIN OF CUSTODY REPORT

Work Order #: **PR0964**

06/26/2008 THU 15:57 FAX 3602130439

X

CLIENT: PBS/ Baker		INVOICE TO: Baker										TURNAROUND REQUEST in Business Days *					
REPORT TO: andrew_harvey@pbsenv.com & christina_johnson@pbsenv.com		P.O. NUMBER:										Organic & Inorganic Analyses <input type="checkbox"/> 10 <input type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD.					
and appropriate personnel at Baker												Petroleum Hydrocarbon Analyses <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD.					
ADDRESS: Portland, Oregon												<input type="checkbox"/> OTHER Specify: _____ * Turnaround Request less than standard may incur load charges.					
PHONE: (503)-417-7893																	
FAX:																	
PROJECT NAME: Camp Bonneville GW Sampling		REQUESTED ANALYSES															
PROJECT NUMBER: 70489 Task 6212		Total Metals + Hg	Dissolved Metals, Hg	VOCs + TICS by 8260B	SVOCs - TICS by 827	NWTPH-Dx	NWTPH-Gx	Explosives, NG, PETN by 8330	Picric Acid 8303	Perchlorate by 314.1	TOC 415.1 & nitrate 353.2	DOC by 415.1	Alkalinity, chloride, nitrite, sulfate, pH	MATRIX (W, S, O)	# OF CONT	CONTRACTS/AGREEMENTS INITIAL	NCA WO ID
SAMPLED BY: Barb Lary																	
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME																
1 TB229	6/26/08 1000			X										W	1		
2 19L4 MWO2BW	10:35			X				X		X				↓	9		
3 19L4 MWO2AW	12:10			X				X		X				↓	9		
4 19L4 MWO4AW	1400			X				X		X				↓	9		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
RELINQUISHED BY: Barb Lary		FIRM: PBS		DATE: 6/26/08		RECEIVED BY: Bob		FIRM: TAP		DATE: 6/26/08		TIME: 1:55		TIME: 1:55			
PRINT NAME: BARB LARY						RECEIVED BY: Christina Johnson		FIRM: TAP		DATE: 6/26/08		TIME: 1:55		TIME: 1:55			
RELINQUISHED BY:		FIRM:		DATE:		RECEIVED BY:		FIRM:		DATE:		TIME:		TIME:			
PRINT NAME:						PRINT NAME: Christina Johnson											
ADDITIONAL REMARKS: 1 COOLER																	
TEMP: 3.6																	

JUN-26-2008 16:02

3502130439

93%

P.01

001/001

TestAmerica Sample Receipt Checklist

Cooler ID(s)

Received by:

Unpacked by:

Logged-in by:

Work Order No. PRF09164

Client: PBS Engineering - Vancouver

Project: Camp Bonneville, WA

(Section A)

(Section B)

Date: 4/26/08

Date: 4/26/08

Date: 4/26/08

Time: 7:15

Initials: ST

Initials: ST

Initials: ST

Temperature out of range.

- Not enough Ice
- No Ice
- Ice Melted
- W/in 4 Hours
- Other: _____

***ESI Clients (see Section C)

Cooler Temperature (IR): _____ °C plastic glass NA (oil/air OR ESI client)

Temperature Blank: 3.4 °C DIGI #1 #2

A Custody Seals: (# _____)

Signature: Y N Dated: _____

None

Received from:

TA Courier

Envoy

UPS

Fed Ex

Client

TDP

USPS

SDS

Mid-Valley

GS/TA

GS/Envoy

Other: _____

Container Type:

#Cooler(s)

#Box(s)

None (#Other: _____)

Coolant Type:

Gel/ Blue Ice

Loose Ice

None

Packing Material:

Bubble Bags

Styrofoam Cubbies

Peanuts

None (#Other: _____)

B Sample Status:
(If N circled, see NOD)

General:

Intact? Y N

Containers Match COC? Y N none given

IDs Match COC? Y N

For Analyses Requested:

Cyanide checked? Y N NA

Correct Type & Preservation? Y N

Adequate Volume? Y N

Within Hold Time? Y N

Volatiles/ Oil Quality:

VOAs/ Syringes free of Headspace? Y N NA

TB on COC? not provided Y N NA

Metals:

HNO3 Preserved? Y N NA

Dissolved Metals Filtered? Y N NA

C ***ESI Clients Only:

Temperature Blank: _____ °C not provided DIGI #1 #2

All preserved bottles checked Y N NA (voas/soils/all unp.)

All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

FED EX/ UPS: Was the tracking paper keepable? YES NO

If circled NO, what is the Tracking number? _____

FED EX Goldstreak UPS DHL Other: _____

Project Managers:

Comments: _____

PM Reviewed: _____ (Initial/Date)

July 15, 2008

Andrew Harvey
PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

RE: Camp Bonneville, WA

Enclosed are the results of analyses for samples received by the laboratory on 06/25/08 09:45.
The following list is a summary of the Work Orders contained in this report, generated on 07/15/08
14:26.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PRF0882	Camp Bonneville, WA	Camp Bonneville, WA

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
19L4MW17W	PRF0882-02	Water	06/24/08 10:10	06/25/08 09:45
19L4MW18W	PRF0882-03	Water	06/24/08 11:10	06/25/08 09:45
19LC MW03SW	PRF0882-04	Water	06/24/08 12:30	06/25/08 09:45
19LC MW460W	PRF0882-05	Water	06/24/08 12:45	06/25/08 09:45
19LC MW04DW	PRF0882-06	Water	06/24/08 14:40	06/25/08 09:45
19LC MW04SW	PRF0882-07	Water	06/24/08 16:15	06/25/08 09:45

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Gasoline Hydrocarbons per NW TPH-Gx Method
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water			Sampled: 06/24/08 12:30					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060980	06/26/08 09:19	06/27/08 21:11	U
<i>Surrogate(s): 4-BFB</i>			86.8%			50 - 150 %	"			"
PRF0882-05 (19LC MW460W)		Water			Sampled: 06/24/08 12:45					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060980	06/26/08 09:19	06/27/08 21:39	U
<i>Surrogate(s): 4-BFB</i>			85.1%			50 - 150 %	"			"
PRF0882-06 (19LC MW04DW)		Water			Sampled: 06/24/08 14:40					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060980	06/26/08 09:19	06/27/08 22:07	U
<i>Surrogate(s): 4-BFB</i>			81.8%			50 - 150 %	"			"
PRF0882-07 (19LC MW04SW)		Water			Sampled: 06/24/08 16:15					
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	8060980	06/26/08 09:19	06/27/08 23:29	U
<i>Surrogate(s): 4-BFB</i>			81.1%			50 - 150 %	"			"

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PBS Engineering

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water			Sampled: 06/24/08 12:30					
Diesel Range Organics	NWTPH-Dx	ND	0.0390	0.0762	mg/l	1x	8060939	06/25/08 15:00	06/26/08 13:17	U
Heavy Oil Range Hydrocarbons	"	ND	0.273	0.476	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>				98.8%		50 - 150 %	"			"
PRF0882-05 (19LC MW460W)		Water			Sampled: 06/24/08 12:45					
Diesel Range Organics	NWTPH-Dx	ND	0.0390	0.0762	mg/l	1x	8060939	06/25/08 15:00	06/26/08 14:11	U
Heavy Oil Range Hydrocarbons	"	ND	0.273	0.476	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>				97.1%		50 - 150 %	"			"
PRF0882-06 (19LC MW04DW)		Water			Sampled: 06/24/08 14:40					
Diesel Range Organics	NWTPH-Dx	ND	0.0390	0.0762	mg/l	1x	8060939	06/25/08 15:00	06/26/08 14:29	U
Heavy Oil Range Hydrocarbons	"	ND	0.273	0.476	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>				103%		50 - 150 %	"			"
PRF0882-07 (19LC MW04SW)		Water			Sampled: 06/24/08 16:15					
Diesel Range Organics	NWTPH-Dx	ND	0.0398	0.0777	mg/l	1x	8060939	06/25/08 15:00	06/26/08 14:46	U
Heavy Oil Range Hydrocarbons	"	ND	0.278	0.485	"	"	"	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>				85.5%		50 - 150 %	"			"

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PBS Engineering

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Total Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-04 (19LC MW03SW)

Water

Sampled: 06/24/08 12:30

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060987	06/26/08 10:59	06/27/08 00:39	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	"	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	06/27/08 19:40	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	06/27/08 00:39	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	B, U
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	06/28/08 10:58	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	06/27/08 00:39	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00103	0.000700	0.00500	"	"	"	"	"	J

PRF0882-05 (19LC MW460W)

Water

Sampled: 06/24/08 12:45

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060987	06/26/08 10:59	06/27/08 00:44	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	"	U
Chromium	"	0.000420	0.000350	0.00200	"	"	"	"	06/27/08 19:45	J
Copper	"	ND	0.000270	0.00200	"	"	"	"	06/27/08 00:44	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	B, U
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	06/28/08 11:03	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	06/27/08 00:44	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00104	0.000700	0.00500	"	"	"	"	"	J

PRF0882-06 (19LC MW04DW)

Water

Sampled: 06/24/08 14:40

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060987	06/26/08 10:59	06/27/08 00:49	U
Arsenic	"	0.000533	0.000180	0.00100	"	"	"	"	"	J
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	"	U

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Total Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-06 (19LC MW04DW)

Water

Sampled: 06/24/08 14:40

Cadmium	EPA 6020	ND	0.000065 0	0.000500	mg/l	1x	8060987	06/26/08 10:59	06/27/08 00:49	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	06/27/08 19:50	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	06/27/08 00:49	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	B, U
Nickel	"	0.000163	0.000150	0.00100	"	"	"	"	"	J
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	06/28/08 11:08	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	06/27/08 00:49	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00141	0.000700	0.00500	"	"	"	"	"	J

PRF0882-07 (19LC MW04SW)

Water

Sampled: 06/24/08 16:15

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060987	06/26/08 10:59	06/27/08 17:47	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000250	0.00500	"	10x	"	"	06/28/08 13:49	RL1, U, D
Cadmium	"	ND	0.000065 0	0.000500	"	1x	"	"	06/27/08 17:47	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	06/27/08 19:56	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	06/27/08 17:47	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	B, U
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00106	0.000700	0.00500	"	"	"	"	"	J

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Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Dissolved Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:34	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:43	U
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	06/27/08 16:34	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.000947	0.000700	0.00500	"	"	"	"	"	J

PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:39	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:51	U
Cadmium	"	0.000239	0.000065 0	0.000500	"	"	"	"	06/27/08 16:39	J
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U
Nickel	"	0.000478	0.000150	0.00100	"	"	"	"	"	J
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00126	0.000700	0.00500	"	"	"	"	"	J

PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:44	U
Arsenic	"	0.000628	0.000180	0.00100	"	"	"	"	"	J
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 02:59	U

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4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Dissolved Metals per EPA 6000/7000 Series Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-06 (19LC MW04DW)

Water

Sampled: 06/24/08 14:40

Cadmium	EPA 6020	ND	0.000065 0	0.000500	mg/l	1x	8060990	06/26/08 11:04	06/27/08 16:44	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U
Nickel	"	ND	0.000150	0.00100	"	"	"	"	"	U
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.00157	0.000700	0.00500	"	"	"	"	"	J

PRF0882-07 (19LC MW04SW)

Water

Sampled: 06/24/08 16:15

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	8060990	06/26/08 11:04	06/27/08 17:00	U
Arsenic	"	ND	0.000180	0.00100	"	"	"	"	"	U
Beryllium	"	ND	0.000025 0	0.000500	"	"	"	"	06/28/08 03:07	U
Cadmium	"	ND	0.000065 0	0.000500	"	"	"	"	06/27/08 17:00	U
Chromium	"	ND	0.000350	0.00200	"	"	"	"	"	U
Copper	"	ND	0.000270	0.00200	"	"	"	"	"	U
Lead	"	ND	0.000220	0.00100	"	"	"	"	"	U
Nickel	"	0.000447	0.000150	0.00100	"	"	"	"	"	J
Selenium	"	ND	0.000075 0	0.000500	"	"	"	"	"	U
Silver	"	ND	0.000200	0.00100	"	"	"	"	"	U
Thallium	"	ND	0.000050 0	0.00100	"	"	"	"	"	U
Zinc	"	0.000904	0.000700	0.00500	"	"	"	"	"	J

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Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created: 07/15/08 14:26
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

Dissolved Mercury per EPA Method 7470A
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8070079	07/02/08 13:36	07/02/08 16:18	U
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8070079	07/02/08 13:36	07/02/08 16:20	U
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8070079	07/02/08 13:36	07/02/08 16:22	U
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Mercury	EPA 7470A	ND	0.000063 0	0.000200	mg/l	1x	8070079	07/02/08 13:36	07/02/08 16:24	U

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created: 07/15/08 14:26
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

Total Mercury per EPA Method 7470A
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8070080	07/02/08 13:37	07/02/08 16:52	U
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8070080	07/02/08 13:37	07/02/08 16:54	U
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8070080	07/02/08 13:37	07/02/08 16:57	U
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Mercury	EPA 7470A	ND	0.000067 3	0.000200	mg/l	1x	8070080	07/02/08 13:37	07/02/08 16:59	U

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-02 (19L4MW17W)				Water			Sampled: 06/24/08 10:10			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:11	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-02 (19L4MW17W)				Water			Sampled: 06/24/08 10:10			
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:11	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	0.350	0.0900	2.00	"	"	"	"	"	J
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	0.120	0.0800	1.00	"	"	"	"	"	J
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

Surrogate(s):	4-BFB	100%	80 - 120 %	"	"
	1,2-DCA-d4	101%	80 - 120 %	"	"
	Dibromofluoromethane	99.7%	80 - 120 %	"	"
	Toluene-d8	102%	80 - 120 %	"	"

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-03 (19L4MW18W)				Water			Sampled: 06/24/08 11:10			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:39	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-03 (19L4MW18W)		Water				Sampled: 06/24/08 11:10				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:39	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>97.5%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>97.9%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>99.8%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)				Water			Sampled: 06/24/08 12:30			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:06	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:06	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

Surrogate(s):	4-BFB	105%	80 - 120 %	"	"
	1,2-DCA-d4	106%	80 - 120 %	"	"
	Dibromofluoromethane	103%	80 - 120 %	"	"
	Toluene-d8	106%	80 - 120 %	"	"

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-05 (19LC MW460W)				Water			Sampled: 06/24/08 12:45			
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:35	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-05 (19LC MW460W)				Water		Sampled: 06/24/08 12:45				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:35	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>98.4%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>101%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:02	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:02	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>98.1%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>100%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:30	U
Benzene	"	ND	0.0900	1.00	"	"	"	"	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	"	"	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	"	"	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	"	"	"	U
Bromoform	"	ND	0.100	1.00	"	"	"	"	"	U
Bromomethane	"	ND	0.170	5.00	"	"	"	"	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	"	"	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	"	"	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	"	"	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	"	"	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	"	"	"	U
Chloroethane	"	ND	0.110	1.00	"	"	"	"	"	U
Chloroform	"	ND	0.0900	1.00	"	"	"	"	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	"	"	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	"	"	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	"	"	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	"	"	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	"	"	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	"	"	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	"	"	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	"	"	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	"	"	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	"	"	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	"	"	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	"	"	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	"	"	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	"	"	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	"	"	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15					
cis-1,3-Dichloropropene	EPA 8260B	ND	0.0900	1.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:30	U	
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	"	"	"	U	
Ethylbenzene	"	ND	0.0600	1.00	"	"	"	"	"	U	
Hexachlorobutadiene	"	ND	0.210	4.00	"	"	"	"	"	U	
2-Hexanone	"	ND	3.62	10.0	"	"	"	"	"	U	
Isopropylbenzene	"	ND	0.0700	2.00	"	"	"	"	"	U	
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	"	"	"	U	
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	"	"	"	U	
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	"	"	"	U	
Methylene chloride	"	ND	0.160	5.00	"	"	"	"	"	U	
Naphthalene	"	ND	0.0900	2.00	"	"	"	"	"	U	
n-Propylbenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
Styrene	"	ND	0.0400	1.00	"	"	"	"	"	U	
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	"	"	"	U	
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	"	"	"	U	
Tetrachloroethene	"	ND	0.110	1.00	"	"	"	"	"	U	
Toluene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,2,3-Trichlorobenzene	"	ND	0.100	1.00	"	"	"	"	"	U	
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	"	"	"	U	
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	"	"	"	U	
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	"	"	"	U	
Trichloroethene	"	ND	0.0800	1.00	"	"	"	"	"	U	
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	"	"	"	U	
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	"	"	"	U	
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	"	"	"	U	
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	"	"	"	U	
Vinyl chloride	"	ND	0.100	1.00	"	"	"	"	"	U	
o-Xylene	"	ND	0.0700	1.00	"	"	"	"	"	U	
m,p-Xylene	"	ND	0.210	2.00	"	"	"	"	"	U	

<i>Surrogate(s):</i>	<i>4-BFB</i>	<i>97.2%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>1,2-DCA-d4</i>	<i>103%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Dibromofluoromethane</i>	<i>100%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Toluene-d8</i>	<i>102%</i>	<i>80 - 120 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)			Water			Sampled: 06/24/08 12:30				
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 18:53	U
Acenaphthylene	"	ND	3.00	5.00	"	"	"	"	"	U
Anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	"	"	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Chrysene	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)			Water			Sampled: 06/24/08 12:30				
2,6-Dinitrotoluene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 18:53	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	"	"	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Fluorene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Isophorone	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
Naphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	"	"	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	"	"	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	"	"	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	"	"	"	U
Phenol	"	ND	3.00	5.00	"	"	"	"	"	U
Pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
<i>Surrogate(s):</i>										
	<i>2-Fluorobiphenyl</i>			52.6%		22 - 120 %	"			"
	<i>2-Fluorophenol</i>			57.0%		5 - 120 %	"			"
	<i>Nitrobenzene-d5</i>			63.1%		26 - 127 %	"			"
	<i>Phenol-d6</i>			62.7%		4 - 121 %	"			"
	<i>p-Terphenyl-d14</i>			110%		37 - 130 %	"			"
	<i>2,4,6-Tribromophenol</i>			84.5%		21 - 129 %	"			"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-05 (19LC MW460W)			Water			Sampled: 06/24/08 12:45				
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:16	U
Acenaphthylene	"	ND	3.00	5.00	"	"	"	"	"	U
Anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	"	"	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Chrysene	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Semivolatile Organic Compounds per EPA Method 8270C
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-05 (19LC MW460W)			Water			Sampled: 06/24/08 12:45				
2,6-Dinitrotoluene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:16	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	"	"	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Fluorene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Isophorone	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
Naphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	"	"	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	"	"	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	"	"	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	"	"	"	U
Phenol	"	ND	3.00	5.00	"	"	"	"	"	U
Pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>77.1%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>77.1%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>85.6%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>82.7%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>104%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>92.0%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-06 (19LC MW04DW)				Water			Sampled: 06/24/08 14:40			
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:38	U
Acenaphthylene	"	ND	3.00	5.00	"	"	"	"	"	U
Anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	"	"	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Chrysene	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
 Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-06 (19LC MW04DW)			Water			Sampled: 06/24/08 14:40				
2,6-Dinitrotoluene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:38	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	"	"	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Fluorene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Isophorone	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
Naphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	"	"	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	"	"	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	"	"	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	"	"	"	U
Phenol	"	ND	3.00	5.00	"	"	"	"	"	U
Pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
<i>Surrogate(s):</i>										
	<i>2-Fluorobiphenyl</i>			68.4%		22 - 120 %	"			"
	<i>2-Fluorophenol</i>			71.5%		5 - 120 %	"			"
	<i>Nitrobenzene-d5</i>			76.1%		26 - 127 %	"			"
	<i>Phenol-d6</i>			77.8%		4 - 121 %	"			"
	<i>p-Terphenyl-d14</i>			107%		37 - 130 %	"			"
	<i>2,4,6-Tribromophenol</i>			94.3%		21 - 129 %	"			"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-07 (19LC MW04SW)				Water			Sampled: 06/24/08 16:15			
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 20:00	U
Acenaphthylene	"	ND	3.00	5.00	"	"	"	"	"	U
Anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	"	"	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	"	"	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	"	"	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	"	"	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	"	"	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	"	"	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	"	"	"	U
Chrysene	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	"	"	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	"	"	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	"	"	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	"	"	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	"	"	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-07 (19LC MW04SW)			Water			Sampled: 06/24/08 16:15				
2,6-Dinitrotoluene	EPA 8270C	ND	3.00	5.00	ug/l	1x	8060964	06/25/08 17:30	07/01/08 20:00	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	"	"	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	"	"	"	U
Fluorene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	"	"	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	"	"	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
Isophorone	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	"	"	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	"	"	"	U
Naphthalene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	"	"	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	"	"	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	"	"	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	"	"	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	"	"	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	"	"	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	"	"	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	"	"	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	"	"	"	U
Phenol	"	ND	3.00	5.00	"	"	"	"	"	U
Pyrene	"	ND	3.00	5.00	"	"	"	"	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	"	"	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	"	"	"	U

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>86.5%</i>	<i>22 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>2-Fluorophenol</i>	<i>88.9%</i>	<i>5 - 120 %</i>	<i>"</i>	<i>"</i>
	<i>Nitrobenzene-d5</i>	<i>93.1%</i>	<i>26 - 127 %</i>	<i>"</i>	<i>"</i>
	<i>Phenol-d6</i>	<i>96.1%</i>	<i>4 - 121 %</i>	<i>"</i>	<i>"</i>
	<i>p-Terphenyl-d14</i>	<i>108%</i>	<i>37 - 130 %</i>	<i>"</i>	<i>"</i>
	<i>2,4,6-Tribromophenol</i>	<i>101%</i>	<i>21 - 129 %</i>	<i>"</i>	<i>"</i>

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.)

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-02 (19L4MW17W)				Water		Sampled: 06/24/08 10:10				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:11	U
PRF0882-03 (19L4MW18W)				Water		Sampled: 06/24/08 11:10				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/06/08 23:39	U
PRF0882-04 (19LC MW03SW)				Water		Sampled: 06/24/08 12:30				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:06	U
PRF0882-05 (19LC MW460W)				Water		Sampled: 06/24/08 12:45				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 00:35	U
PRF0882-06 (19LC MW04DW)				Water		Sampled: 06/24/08 14:40				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:02	U
PRF0882-07 (19LC MW04SW)				Water		Sampled: 06/24/08 16:15				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	8070143	07/06/08 16:00	07/07/08 01:30	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Tentatively Identified Compounds per Semivolatile GC/MS (Est. Conc.)
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	8060964	06/25/08 17:30	07/01/08 18:53	U
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:16	U
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	8060964	06/25/08 17:30	07/01/08 19:38	U
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	8060964	06/25/08 17:30	07/01/08 20:00	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Conventional Chemistry Parameters per APHA/EPA Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.271	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.59			pH Units	1x	8060957	06/25/08 12:33	06/25/08 12:38	
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.298	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.56			pH Units	1x	8060957	06/25/08 12:33	06/25/08 12:38	
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.190	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.59			pH Units	1x	8060957	06/25/08 12:33	06/25/08 12:38	
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Nitrate/Nitrite-Nitrogen	EPA 353.2	1.10	0.0270	0.0500	mg/l	10x	8070053	07/02/08 06:38	07/07/08 17:59	D
pH	EPA 150.1	6.49			pH Units	1x	8060957	06/25/08 12:33	06/25/08 12:38	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Conventional Chemistry Parameters per Standard Methods
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-04 (19LC MW03SW) Water Sampled: 06/24/08 12:30

Bicarbonate Alkalinity	SM 2320B	44.6	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36	
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Total Alkalinity	"	44.6	0.320	5.00	"	"	"	"	"	
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U

PRF0882-05 (19LC MW460W) Water Sampled: 06/24/08 12:45

Bicarbonate Alkalinity	SM 2320B	44.6	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36	
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Total Alkalinity	"	44.6	0.320	5.00	"	"	"	"	"	
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U

PRF0882-06 (19LC MW04DW) Water Sampled: 06/24/08 14:40

Bicarbonate Alkalinity	SM 2320B	52.0	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36	
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Total Alkalinity	"	52.0	0.320	5.00	"	"	"	"	"	
Total Suspended Solids	SM 2540D	1.00	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	

PRF0882-07 (19LC MW04SW) Water Sampled: 06/24/08 16:15

Bicarbonate Alkalinity	SM 2320B	41.8	0.320	5.00	mg/L as CaCO3	1x	8060978	06/26/08 08:56	06/26/08 13:36	
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Hydroxide Alkalinity	"	ND	0.320	5.00	"	"	"	"	"	U
Total Alkalinity	"	41.8	0.320	5.00	"	"	"	"	"	
Total Suspended Solids	SM 2540D	ND	0.310	1.00	mg/l	"	8060986	06/26/08 10:51	06/26/08 17:28	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Anions per EPA Method 300.0
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Chloride	EPA 300.0	1.34	0.0270	0.500	mg/l	1x	8060946	06/25/08 10:56	06/25/08 12:56	
Sulfate	"	0.450	0.198	1.00	"	"	"	"	"	J
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Chloride	EPA 300.0	1.36	0.0270	0.500	mg/l	1x	8060946	06/25/08 10:56	06/25/08 13:10	
Sulfate	"	0.420	0.198	1.00	"	"	"	"	"	J
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Chloride	EPA 300.0	2.00	0.0270	0.500	mg/l	1x	8060946	06/25/08 10:56	06/25/08 13:24	
Sulfate	"	1.35	0.198	1.00	"	"	"	"	"	
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Chloride	EPA 300.0	2.66	0.0270	0.500	mg/l	1x	8060946	06/25/08 10:56	06/25/08 13:38	
Sulfate	"	0.380	0.198	1.00	"	"	"	"	"	J

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created: 07/15/08 14:26
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

Conventional Chemistry Parameters by APHA/EPA Methods
 TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)			Water			Sampled: 06/24/08 12:30				
Nitrite-Nitrogen	EPA 353.2	ND	-----	0.0100	mg/l as N	1x	8F26025	06/26/08 10:30	06/26/08 10:53	
PRF0882-05 (19LC MW460W)			Water			Sampled: 06/24/08 12:45				
Nitrite-Nitrogen	EPA 353.2	ND	-----	0.0100	mg/l as N	1x	8F26025	06/26/08 10:30	06/26/08 10:53	
PRF0882-06 (19LC MW04DW)			Water			Sampled: 06/24/08 14:40				
Nitrite-Nitrogen	EPA 353.2	ND	-----	0.0100	mg/l as N	1x	8F26025	06/26/08 10:30	06/26/08 10:53	
PRF0882-07 (19LC MW04SW)			Water			Sampled: 06/24/08 16:15				
Nitrite-Nitrogen	EPA 353.2	ND	-----	0.0100	mg/l as N	1x	8F26025	06/26/08 10:30	06/26/08 10:53	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created: 07/15/08 14:26
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

Total Organic Carbon, Combustion or Oxidation
 TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water				Sampled: 06/24/08 12:30				
Total Organic Carbon	415.1	ND	-----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0882-05 (19LC MW460W)		Water				Sampled: 06/24/08 12:45				
Total Organic Carbon	415.1	ND	-----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0882-06 (19LC MW04DW)		Water				Sampled: 06/24/08 14:40				
Total Organic Carbon	415.1	ND	-----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	
PRF0882-07 (19LC MW04SW)		Water				Sampled: 06/24/08 16:15				
Total Organic Carbon	415.1	ND	-----	1.0	mg/L	1x	33844	07/08/08 13:40	07/08/08 13:40	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Total Organic Carbon, Combustion or Oxidation Diss
TestAmerica Tacoma

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-04 (19LC MW03SW)		Water		Sampled: 06/24/08 12:30						
Total Organic Carbon	415.1 Dissolved	ND	-----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0882-05 (19LC MW460W)		Water		Sampled: 06/24/08 12:45						
Total Organic Carbon	415.1 Dissolved	ND	-----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0882-06 (19LC MW04DW)		Water		Sampled: 06/24/08 14:40						
Total Organic Carbon	415.1 Dissolved	ND	-----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	
PRF0882-07 (19LC MW04SW)		Water		Sampled: 06/24/08 16:15						
Total Organic Carbon	415.1 Dissolved	ND	-----	1.0	mg/L	1x	33933	07/09/08 15:41	07/09/08 15:41	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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EPA-DW1 314.0
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-02 (19L4MW17W)		Water			Sampled: 06/24/08 10:10					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 19:14	
PRF0882-03 (19L4MW18W)		Water			Sampled: 06/24/08 11:10					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 19:35	
PRF0882-04 (19LC MW03SW)		Water			Sampled: 06/24/08 12:30					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 19:56	
PRF0882-05 (19LC MW460W)		Water			Sampled: 06/24/08 12:45					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 20:17	
PRF0882-06 (19LC MW04DW)		Water			Sampled: 06/24/08 14:40					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 20:38	
PRF0882-07 (19LC MW04SW)		Water			Sampled: 06/24/08 16:15					
Perchlorate	EPA-DW1 314.0	ND	----	1	ug/L	1x	8191165	07/08/08 16:26	07/08/08 21:42	

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	Project Number: Camp Bonneville, WA	07/15/08 14:26
	Project Manager: Andrew Harvey	

SW846 8330
 TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PRF0882-02 (19L4MW17W)		Water			Sampled: 06/24/08 10:10						
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 12:40		
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"		
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"		
HMX	"	ND	----	0.4	"	"	"	"	"		
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"		
Nitroglycerin	"	ND	----	3	"	"	"	"	"		
PETN	"	ND	----	2	"	"	"	"	"		
Picric Acid	"	ND	----	0.4	"	"	"	"	"		
RDX	"	ND	----	0.2	"	"	"	"	"		
Tetryl	"	ND	----	0.2	"	"	"	"	"		
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				103%		75 - 118 %	"			"	

PRF0882-03 (19L4MW18W)		Water			Sampled: 06/24/08 11:10						
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 13:04		
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"		
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"		
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"		
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"		
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"		
HMX	"	ND	----	0.4	"	"	"	"	"		
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"		
Nitroglycerin	"	ND	----	3	"	"	"	"	"		
PETN	"	ND	----	2	"	"	"	"	"		
Picric Acid	"	ND	----	0.4	"	"	"	"	"		
RDX	"	ND	----	0.2	"	"	"	"	"		

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Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
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PRF0882-03 (19L4MW18W)

Water

Sampled: 06/24/08 11:10

Tetryl	SW846 8330	ND	----	0.2	ug/L	1x	8182428	06/30/08 18:00	07/03/08 13:04	
--------	------------	----	------	-----	------	----	---------	----------------	----------------	--

Surrogate(s): 1,2-Dinitrobenzene 105% 75 - 118 % " "

PRF0882-04 (19LC MW03SW)

Water

Sampled: 06/24/08 12:30

1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 13:28	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	
Nitroglycerin	"	ND	----	3	"	"	"	"	"	
PETN	"	ND	----	2	"	"	"	"	"	
Picric Acid	"	ND	----	0.4	"	"	"	"	"	
RDX	"	ND	----	0.2	"	"	"	"	"	
Tetryl	"	ND	----	0.2	"	"	"	"	"	

Surrogate(s): 1,2-Dinitrobenzene 109% 75 - 118 % " "

PRF0882-05 (19LC MW460W)

Water

Sampled: 06/24/08 12:45

1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 13:52	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	
HMX	"	ND	----	0.4	"	"	"	"	"	
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-05 (19LC MW460W)		Water			Sampled: 06/24/08 12:45					
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>		106%			75 - 118 %		"			

PRF0882-06 (19LC MW04DW)		Water			Sampled: 06/24/08 14:40					
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 14:16	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
3-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>		98%			75 - 118 %		"			

PRF0882-07 (19LC MW04SW)		Water			Sampled: 06/24/08 16:15					
1,3,5-Trinitrobenzene	SW846 8330	ND	----	1	ug/L	1x	8182428	06/30/08 18:00	07/03/08 14:40	
1,3-Dinitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
2,4,6-Trinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,4-Dinitrotoluene	"	ND	----	0.4	"	"	"	"	"	"
2,6-Dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Amino-4,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
2-Nitrotoluene	"	ND	----	0.4	"	"	"	"	"	"

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	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

SW846 8330
TestAmerica Denver

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PRF0882-07 (19LC MW04SW)		Water			Sampled: 06/24/08 16:15					
3-Nitrotoluene	SW846 8330	ND	----	0.4	ug/L	1x	8182428	06/30/08 18:00	07/03/08 14:40	
4-Amino-2,6-dinitrotoluene	"	ND	----	0.2	"	"	"	"	"	"
4-Nitrotoluene	"	ND	----	1	"	"	"	"	"	"
HMX	"	ND	----	0.4	"	"	"	"	"	"
Nitrobenzene	"	ND	----	0.4	"	"	"	"	"	"
Nitroglycerin	"	ND	----	3	"	"	"	"	"	"
PETN	"	ND	----	2	"	"	"	"	"	"
Picric Acid	"	ND	----	0.4	"	"	"	"	"	"
RDX	"	ND	----	0.2	"	"	"	"	"	"
Tetryl	"	ND	----	0.2	"	"	"	"	"	"
<i>Surrogate(s): 1,2-Dinitrobenzene</i>				115%		75 - 118 %	"			"

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Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060980 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (8060980-BLK1)							Extracted: 06/26/08 09:19								
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	32.7	80.0	ug/l	1x	--	--	--	--	--	--	06/27/08 07:38	U	
Surrogate(s): 4-BFB		Recovery: 88.8%	Limits: 50-150%		"										06/27/08 07:38
LCS (8060980-BS2)							Extracted: 06/26/08 09:19								
Gasoline Range Hydrocarbons	NW TPH-Gx	458	32.7	80.0	ug/l	1x	--	500	91.6%	(70-130)	--	--	06/27/08 06:43		
Surrogate(s): 4-BFB		Recovery: 102%	Limits: 50-150%		"										06/27/08 06:43
LCS Dup (8060980-BSD2)							Extracted: 06/26/08 09:19								
Gasoline Range Hydrocarbons	NW TPH-Gx	477	32.7	80.0	ug/l	1x	--	500	95.3%	(70-130)	3.97%	(35)	06/27/08 07:10		
Surrogate(s): 4-BFB		Recovery: 101%	Limits: 50-150%		"										06/27/08 07:10
Duplicate (8060980-DUP1)							QC Source: PRF0875-01			Extracted: 06/26/08 09:19					
Gasoline Range Hydrocarbons	NW TPH-Gx	4630	327	800	ug/l	10x	4660	--	--	--	0.668%	(35)	06/27/08 08:32	D	
Surrogate(s): 4-BFB		Recovery: 135%	Limits: 50-150%		1x										06/27/08 08:32
Duplicate (8060980-DUP2)							QC Source: PRF0875-07			Extracted: 06/26/08 09:19					
Gasoline Range Hydrocarbons	NW TPH-Gx	7620	327	800	ug/l	10x	8100	--	--	--	6.12%	(35)	06/27/08 17:27	D	
Surrogate(s): 4-BFB		Recovery: 168%	Limits: 50-150%		1x										06/27/08 17:27
Matrix Spike (8060980-MS2)							QC Source: PRF0882-07			Extracted: 06/26/08 09:19					
Gasoline Range Hydrocarbons	NW TPH-Gx	442	32.7	80.0	ug/l	1x	ND	500	88.3%	(70-130)	--	--	06/27/08 23:57		
Surrogate(s): 4-BFB		Recovery: 97.8%	Limits: 50-150%		"										06/27/08 23:57
Matrix Spike Dup (8060980-MSD2)							QC Source: PRF0882-07			Extracted: 06/26/08 09:19					
Gasoline Range Hydrocarbons	NW TPH-Gx	464	32.7	80.0	ug/l	1x	ND	500	92.8%	(70-130)	4.92%	(30)	06/28/08 00:24		
Surrogate(s): 4-BFB		Recovery: 96.5%	Limits: 50-150%		"										06/28/08 00:24

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Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060939 **Water Preparation Method: EPA 3510 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060939-BLK1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	ND	0.0410	0.0800	mg/l	1x	--	--	--	--	--	--	06/26/08 10:34	U
Heavy Oil Range Hydrocarbons	"	ND	0.286	0.500	"	"	--	--	--	--	--	--	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 80.6%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 10:34</i>							
LCS (8060939-BS1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	1.04	0.0410	0.0800	mg/l	1x	--	1.25	83.1%	(50-150)	--	--	06/26/08 10:53	
Heavy Oil Range Hydrocarbons	"	0.772	0.286	0.500	"	"	--	0.750	103%	"	--	--	"	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 89.6%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 10:53</i>							
LCS Dup (8060939-BSD1)								Extracted: 06/25/08 12:00						
Diesel Range Organics	NWTPH-Dx	0.887	0.0410	0.0800	mg/l	1x	--	1.25	71.0%	(50-150)	15.7% (50)		06/26/08 11:11	
Heavy Oil Range Hydrocarbons	"	0.743	0.286	0.500	"	"	--	0.750	99.1%	"	3.80%	"	"	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.7%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 11:11</i>							
Duplicate (8060939-DUP1)				QC Source: PRF0882-07				Extracted: 06/25/08 15:00						
Diesel Range Organics	NWTPH-Dx	ND	0.0387	0.0755	mg/l	1x	ND	--	--	--	NR (50)		06/26/08 11:31	U
Heavy Oil Range Hydrocarbons	"	ND	0.270	0.472	"	"	ND	--	--	--	NR	"	"	U
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 99.2%</i>	<i>Limits: 50-150%</i>		<i>"</i>		<i>06/26/08 11:31</i>							

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060987

Water Preparation Method: EPA 200/3005

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (8060987-BLK1)

Extracted: 06/26/08 10:59

Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	--	--	--	--	--	--	06/26/08 23:30	U
Arsenic	"	ND	0.000180	0.00100	"	"	--	--	--	--	--	--	"	U
Beryllium	"	ND	0.0000250	0.000500	"	"	--	--	--	--	--	--	"	U
Cadmium	"	ND	0.0000650	0.000500	"	"	--	--	--	--	--	--	"	U
Chromium	"	ND	0.000350	0.00200	"	"	--	--	--	--	--	--	06/27/08 18:28	U
Copper	"	ND	0.000270	0.00200	"	"	--	--	--	--	--	--	06/26/08 23:30	U
Lead	"	0.000851	0.000220	0.00100	"	"	--	--	--	--	--	--	06/27/08 01:37	B4, J
Nickel	"	ND	0.000150	0.00100	"	"	--	--	--	--	--	--	06/26/08 23:30	U
Selenium	"	ND	0.0000750	0.000500	"	"	--	--	--	--	--	--	"	U
Silver	"	ND	0.000200	0.00100	"	"	--	--	--	--	--	--	"	U
Thallium	"	ND	0.0000500	0.00100	"	"	--	--	--	--	--	--	"	U
Zinc	"	0.000859	0.000700	0.00500	"	"	--	--	--	--	--	--	"	J

LCS (8060987-BS1)

Extracted: 06/26/08 10:59

Antimony	EPA 6020	0.0465	0.000150	0.00100	mg/l	1x	--	0.0500	93.0%	(80-120)	--	--	06/26/08 23:36	
Arsenic	"	0.0960	0.000180	0.00100	"	"	--	0.100	96.0%	"	--	--	"	
Beryllium	"	0.0941	0.0000250	0.000500	"	"	--	"	94.1%	"	--	--	"	
Cadmium	"	0.0965	0.0000650	0.000500	"	"	--	"	96.5%	"	--	--	"	
Chromium	"	0.102	0.000350	0.00200	"	"	--	"	102%	"	--	--	06/27/08 18:34	
Copper	"	0.0982	0.000270	0.00200	"	"	--	"	98.2%	"	--	--	06/26/08 23:36	
Lead	"	0.0968	0.000220	0.00100	"	"	--	"	96.8%	"	--	--	"	B
Nickel	"	0.0978	0.000150	0.00100	"	"	--	"	97.8%	"	--	--	"	
Selenium	"	0.0940	0.0000750	0.000500	"	"	--	"	94.0%	"	--	--	"	
Silver	"	0.0457	0.000200	0.00100	"	"	--	0.0500	91.3%	"	--	--	"	
Thallium	"	0.0952	0.0000500	0.00100	"	"	--	0.100	95.2%	"	--	--	"	
Zinc	"	0.0956	0.000700	0.00500	"	"	--	"	95.6%	"	--	--	"	

Duplicate (8060987-DUP1)

QC Source: PRF0779-01RE1

Extracted: 06/26/08 10:59

Antimony	EPA 6020	0.000163	0.000150	0.00100	mg/l	1x	0.000256	--	--	--	44.4% (20)	--	06/26/08 23:46	R4, J
Arsenic	"	0.000767	0.000180	0.00100	"	"	0.000760	--	--	--	0.917%	"	"	J
Beryllium	"	ND	0.0000250	0.000500	"	"	0.0000380	--	--	--	"	"	"	U
Cadmium	"	ND	0.0000650	0.000500	"	"	ND	--	--	--	NR	"	"	U
Chromium	"	0.000360	0.000350	0.00200	"	"	0.000390	--	--	--	8.00%	"	06/27/08 18:48	J
Copper	"	0.00110	0.000270	0.00200	"	"	0.00114	--	--	--	3.31%	"	06/26/08 23:46	J
Lead	"	ND	0.000220	0.00100	"	"	0.000236	--	--	--	--	"	"	U
Nickel	"	0.000478	0.000150	0.00100	"	"	0.000538	--	--	--	11.8%	"	"	J
Selenium	"	0.000366	0.0000750	0.000500	"	"	0.000101	--	--	--	113%	"	"	R4, J
Silver	"	ND	0.000200	0.00100	"	"	ND	--	--	--	NR	"	"	U
Thallium	"	ND	0.0000500	0.00100	"	"	0.0000590	--	--	--	--	"	"	U

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4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Total Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

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QC Batch: 8060987

Water Preparation Method: EPA 200/3005

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (8060987-DUP1)			QC Source: PRF0779-01RE1				Extracted: 06/26/08 10:59							
Zinc	EPA 6020	0.00254	0.000700	0.00500	mg/l	1x	0.00309	--	--	--	19.6%	(20)	06/26/08 23:46	J
Matrix Spike (8060987-MS1)			QC Source: PRF0882-07				Extracted: 06/26/08 10:59							
Antimony	EPA 6020	0.0479	0.000150	0.00100	mg/l	1x	ND	0.0500	95.8%	(75-125)	--	--	06/27/08 17:52	
Arsenic	"	0.0989	0.000180	0.00100	"	"	ND	0.100	98.9%	"	--	--	"	
Beryllium	"	0.0800	0.000250	0.00500	"	10x	ND	"	80.0%	"	--	--	06/28/08 13:54	D
Cadmium	"	0.101	0.0000650	0.000500	"	1x	ND	"	101%	"	--	--	06/27/08 17:52	
Chromium	"	0.102	0.000350	0.00200	"	"	ND	"	102%	"	--	--	06/27/08 20:01	
Copper	"	0.0977	0.000270	0.00200	"	"	ND	"	97.7%	"	--	--	06/27/08 17:52	
Lead	"	0.0975	0.000220	0.00100	"	"	ND	"	97.5%	"	--	--	"	B
Nickel	"	0.0961	0.000150	0.00100	"	"	ND	"	96.1%	"	--	--	"	
Selenium	"	0.0966	0.0000750	0.000500	"	"	ND	"	96.6%	"	--	--	"	
Silver	"	0.0464	0.000200	0.00100	"	"	ND	0.0500	92.7%	"	--	--	"	
Thallium	"	0.0956	0.0000500	0.00100	"	"	ND	0.100	95.6%	"	--	--	"	
Zinc	"	0.0996	0.000700	0.00500	"	"	0.00106	"	98.5%	"	--	--	"	
Matrix Spike Dup (8060987-MSD1)			QC Source: PRF0882-07				Extracted: 06/26/08 10:59							
Antimony	EPA 6020	0.0434	0.000150	0.00100	mg/l	1x	ND	0.0500	86.8%	(75-125)	9.90%	(20)	06/27/08 17:57	
Arsenic	"	0.0900	0.000180	0.00100	"	"	ND	0.100	90.0%	"	9.41%	"	"	
Beryllium	"	0.0692	0.000250	0.00500	"	10x	ND	"	69.2%	"	14.5%	"	06/28/08 14:13	M8, D
Cadmium	"	0.0914	0.0000650	0.000500	"	1x	ND	"	91.4%	"	10.0%	"	06/27/08 17:57	
Chromium	"	0.0926	0.000350	0.00200	"	"	ND	"	92.6%	"	9.72%	"	06/27/08 20:19	
Copper	"	0.0892	0.000270	0.00200	"	"	ND	"	89.2%	"	9.07%	"	06/27/08 17:57	
Lead	"	0.0877	0.000220	0.00100	"	"	ND	"	87.7%	"	10.6%	"	"	B
Nickel	"	0.0873	0.000150	0.00100	"	"	ND	"	87.3%	"	9.65%	"	"	
Selenium	"	0.0887	0.0000750	0.000500	"	"	ND	"	88.7%	"	8.55%	"	"	
Silver	"	0.0421	0.000200	0.00100	"	"	ND	0.0500	84.2%	"	9.68%	"	"	
Thallium	"	0.0861	0.0000500	0.00100	"	"	ND	0.100	86.1%	"	10.5%	"	"	
Zinc	"	0.0909	0.000700	0.00500	"	"	0.00106	"	89.9%	"	9.11%	"	"	

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060990 **Water Preparation Method: EPA 200/3005 Diss**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060990-BLK1)										Extracted: 06/26/08 11:04				
Antimony	EPA 6020	ND	0.000150	0.00100	mg/l	1x	--	--	--	--	--	--	06/27/08 15:46	U
Arsenic	"	ND	0.000180	0.00100	"	"	--	--	--	--	--	--	"	U
Beryllium	"	ND	0.0000250	0.000500	"	"	--	--	--	--	--	--	06/28/08 01:30	U
Cadmium	"	ND	0.0000650	0.000500	"	"	--	--	--	--	--	--	06/27/08 15:46	U
Chromium	"	ND	0.000350	0.00200	"	"	--	--	--	--	--	--	"	U
Copper	"	ND	0.000270	0.00200	"	"	--	--	--	--	--	--	"	U
Lead	"	ND	0.000220	0.00100	"	"	--	--	--	--	--	--	"	U
Nickel	"	ND	0.000150	0.00100	"	"	--	--	--	--	--	--	"	U
Selenium	"	ND	0.0000750	0.000500	"	"	--	--	--	--	--	--	"	U
Silver	"	ND	0.000200	0.00100	"	"	--	--	--	--	--	--	"	U
Thallium	"	ND	0.0000500	0.00100	"	"	--	--	--	--	--	--	"	U
Zinc	"	ND	0.000700	0.00500	"	"	--	--	--	--	--	--	"	U

LCS (8060990-BS1)										Extracted: 06/26/08 11:04				
Antimony	EPA 6020	0.0406	0.000150	0.00100	mg/l	1x	--	0.0500	81.1%	(80-120)	--	--	06/27/08 15:51	
Arsenic	"	0.0944	0.000180	0.00100	"	"	--	0.100	94.4%	"	--	--	"	
Beryllium	"	0.0843	0.0000250	0.000500	"	"	--	"	84.3%	"	--	--	06/28/08 01:38	
Cadmium	"	0.0914	0.0000650	0.000500	"	"	--	"	91.4%	"	--	--	06/27/08 15:51	
Chromium	"	0.0957	0.000350	0.00200	"	"	--	"	95.7%	"	--	--	"	
Copper	"	0.0941	0.000270	0.00200	"	"	--	"	94.1%	"	--	--	"	
Lead	"	0.0908	0.000220	0.00100	"	"	--	"	90.8%	"	--	--	"	
Nickel	"	0.0933	0.000150	0.00100	"	"	--	"	93.3%	"	--	--	"	
Selenium	"	0.0917	0.0000750	0.000500	"	"	--	"	91.7%	"	--	--	"	
Silver	"	0.0426	0.000200	0.00100	"	"	--	0.0500	85.2%	"	--	--	"	
Thallium	"	0.0892	0.0000500	0.00100	"	"	--	0.100	89.2%	"	--	--	"	
Zinc	"	0.0951	0.000700	0.00500	"	"	--	"	95.1%	"	--	--	"	

Matrix Spike (8060990-MS1)										QC Source: PRF0882-07					Extracted: 06/26/08 11:04				
Antimony	EPA 6020	0.0438	0.000150	0.00100	mg/l	1x	ND	0.0500	87.6%	(75-125)	--	--	06/27/08 17:05						
Arsenic	"	0.101	0.000180	0.00100	"	"	ND	0.100	101%	"	--	--	"						
Beryllium	"	0.0940	0.0000250	0.000500	"	"	ND	"	94.0%	"	--	--	06/28/08 03:23						
Cadmium	"	0.100	0.0000650	0.000500	"	"	ND	"	100%	"	--	--	06/27/08 17:05						
Chromium	"	0.102	0.000350	0.00200	"	"	ND	"	102%	"	--	--	"						
Copper	"	0.100	0.000270	0.00200	"	"	ND	"	100%	"	--	--	"						
Lead	"	0.0960	0.000220	0.00100	"	"	ND	"	96.0%	"	--	--	"						
Nickel	"	0.0990	0.000150	0.00100	"	"	0.000447	"	98.6%	"	--	--	"						
Selenium	"	0.101	0.0000750	0.000500	"	"	ND	"	101%	"	--	--	"						
Silver	"	0.0453	0.000200	0.00100	"	"	ND	0.0500	90.7%	"	--	--	"						
Thallium	"	0.0945	0.0000500	0.00100	"	"	ND	0.100	94.5%	"	--	--	"						

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Dissolved Metals per EPA 6000/7000 Series Methods - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060990

Water Preparation Method: EPA 200/3005 Diss

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8060990-MS1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Zinc	EPA 6020	0.106	0.000700	0.00500	mg/l	1x	0.000904	0.100	105%	(75-125)	--	--	06/27/08 17:05	
Matrix Spike Dup (8060990-MSD1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Antimony	EPA 6020	0.0450	0.000150	0.00100	mg/l	1x	ND	0.0500	90.0%	(75-125)	2.66%	(20)	06/27/08 17:10	
Arsenic	"	0.102	0.000180	0.00100	"	"	ND	0.100	102%	"	1.18%	"	"	
Beryllium	"	0.0917	0.0000250	0.000500	"	"	ND	"	91.7%	"	2.48%	"	06/28/08 03:32	
Cadmium	"	0.103	0.0000650	0.000500	"	"	ND	"	103%	"	2.17%	"	06/27/08 17:10	
Chromium	"	0.103	0.000350	0.00200	"	"	ND	"	103%	"	1.56%	"	"	
Copper	"	0.101	0.000270	0.00200	"	"	ND	"	101%	"	0.598%	"	"	
Lead	"	0.0976	0.000220	0.00100	"	"	ND	"	97.6%	"	1.67%	"	"	
Nickel	"	0.100	0.000150	0.00100	"	"	0.000447	"	99.8%	"	1.16%	"	"	
Selenium	"	0.102	0.0000750	0.000500	"	"	ND	"	102%	"	1.28%	"	"	
Silver	"	0.0461	0.000200	0.00100	"	"	ND	0.0500	92.2%	"	1.68%	"	"	
Thallium	"	0.0961	0.0000500	0.00100	"	"	ND	0.100	96.1%	"	1.64%	"	"	
Zinc	"	0.107	0.000700	0.00500	"	"	0.000904	"	106%	"	0.941%	"	"	
Post Spike (8060990-PS1)			QC Source: PRF0882-07				Extracted: 06/26/08 11:04							
Arsenic	EPA 6020	0.105			ug/ml	1x	-0.000223	0.100	105%	(75-125)	--	--	06/27/08 17:16	

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Dissolved Mercury per EPA Method 7470A - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8070079 **Water Preparation Method: EPA 7470A**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070079-BLK1)								Extracted: 07/02/08 13:36						
Mercury	EPA 7470A	ND	0.0000630	0.000200	mg/l	1x	--	--	--	--	--	--	07/02/08 16:00	U
LCS (8070079-BS1)								Extracted: 07/02/08 13:36						
Mercury	EPA 7470A	0.00501	0.0000630	0.000200	mg/l	1x	--	0.00500	100%	(85-115)	--	--	07/02/08 16:02	
LCS Dup (8070079-BSD1)								Extracted: 07/02/08 13:36						
Mercury	EPA 7470A	0.00489	0.0000630	0.000200	mg/l	1x	--	0.00500	97.8%	(85-115)	2.36% (20)		07/02/08 16:06	
Duplicate (8070079-DUP1)								QC Source: PRF0882-07		Extracted: 07/02/08 13:36				
Mercury	EPA 7470A	ND	0.0000630	0.000200	mg/l	1x	ND	--	--	--	NR (20)		07/02/08 16:09	U
Matrix Spike (8070079-MS1)								QC Source: PRF0882-07		Extracted: 07/02/08 13:36				
Mercury	EPA 7470A	0.00519	0.0000630	0.000200	mg/l	1x	ND	0.00500	104%	(75-125)	--	--	07/02/08 16:11	
Matrix Spike Dup (8070079-MSD1)								QC Source: PRF0882-07		Extracted: 07/02/08 13:36				
Mercury	EPA 7470A	0.00502	0.0000630	0.000200	mg/l	1x	ND	0.00500	100%	(75-125)	3.34% (20)		07/02/08 16:14	

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Total Mercury per EPA Method 7470A - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8070080 Water Preparation Method: EPA 7470A

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070080-BLK1)								Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	ND	0.0000673	0.000200	mg/l	1x	--	--	--	--	--	--	07/02/08 16:35	U
LCS (8070080-BS1)								Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	0.00493	0.0000673	0.000200	mg/l	1x	--	0.00500	98.6%	(85-115)	--	--	07/02/08 16:37	
LCS Dup (8070080-BSD1)								Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	0.00502	0.0000673	0.000200	mg/l	1x	--	0.00500	100%	(85-115)	1.76% (20)		07/02/08 16:40	
Duplicate (8070080-DUP1)				QC Source: PRF0882-07				Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	ND	0.0000673	0.000200	mg/l	1x	ND	--	--	--	NR (20)		07/02/08 16:44	U
Matrix Spike (8070080-MS1)				QC Source: PRF0882-07				Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	0.00506	0.0000673	0.000200	mg/l	1x	ND	0.00500	101%	(75-125)	--	--	07/02/08 16:46	
Matrix Spike Dup (8070080-MSD1)				QC Source: PRF0882-07				Extracted: 07/02/08 13:37						
Mercury	EPA 7470A	0.00497	0.0000673	0.000200	mg/l	1x	ND	0.00500	99.5%	(75-125)	1.75% (20)		07/02/08 16:49	

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070143

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070143-BLK1)													Extracted: 07/06/08 16:00	
Acetone	EPA 8260B	ND	7.76	25.0	ug/l	1x	--	--	--	--	--	--	07/06/08 18:23	U
Benzene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Bromobenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromochloromethane	"	ND	0.180	1.00	"	"	--	--	--	--	--	--	"	U
Bromodichloromethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Bromoform	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Bromomethane	"	ND	0.170	5.00	"	"	--	--	--	--	--	--	"	U
2-Butanone (MEK)	"	ND	3.50	10.0	"	"	--	--	--	--	--	--	"	U
n-Butylbenzene	"	ND	0.0600	5.00	"	"	--	--	--	--	--	--	"	U
sec-Butylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
tert-Butylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Carbon disulfide	"	ND	0.140	10.0	"	"	--	--	--	--	--	--	"	U
Carbon tetrachloride	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
Chlorobenzene	"	ND	0.0500	1.00	"	"	--	--	--	--	--	--	"	U
Chloroethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Chloroform	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Chloromethane	"	ND	0.0800	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorotoluene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
4-Chlorotoluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromo-3-chloropropane	"	ND	2.35	5.00	"	"	--	--	--	--	--	--	"	U
Dibromochloromethane	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dibromoethane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Dibromomethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
Dichlorodifluoromethane	"	ND	0.110	5.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloroethane	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloroethene	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,2-Dichloroethene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,2-Dichloroethene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichloropropane	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichloropropane	"	ND	0.140	1.00	"	"	--	--	--	--	--	--	"	U
2,2-Dichloropropane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1-Dichloropropene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
cis-1,3-Dichloropropene	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
trans-1,3-Dichloropropene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Ethylbenzene	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8070143 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
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Blank (8070143-BLK1)

Extracted: 07/06/08 16:00

Hexachlorobutadiene	EPA 8260B	ND	0.210	4.00	ug/l	1x	--	--	--	--	--	--	07/06/08 18:23	U
2-Hexanone	"	ND	3.62	10.0	"	"	--	--	--	--	--	--	"	U
Isopropylbenzene	"	ND	0.0700	2.00	"	"	--	--	--	--	--	--	"	U
p-Isopropyltoluene	"	ND	0.0600	2.00	"	"	--	--	--	--	--	--	"	U
4-Methyl-2-pentanone	"	ND	0.290	5.00	"	"	--	--	--	--	--	--	"	U
Methyl tert-butyl ether	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
Methylene chloride	"	ND	0.160	5.00	"	"	--	--	--	--	--	--	"	U
Naphthalene	"	ND	0.0900	2.00	"	"	--	--	--	--	--	--	"	U
n-Propylbenzene	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
Styrene	"	ND	0.0400	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1,2-Tetrachloroethane	"	ND	0.0900	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2,2-Tetrachloroethane	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Tetrachloroethene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
Toluene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichlorobenzene	"	0.200	0.100	1.00	"	"	--	--	--	--	--	--	"	J
1,2,4-Trichlorobenzene	"	ND	0.110	1.00	"	"	--	--	--	--	--	--	"	U
1,1,1-Trichloroethane	"	ND	0.120	1.00	"	"	--	--	--	--	--	--	"	U
1,1,2-Trichloroethane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
Trichloroethene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
Trichlorofluoromethane	"	ND	0.0600	1.00	"	"	--	--	--	--	--	--	"	U
1,2,3-Trichloropropane	"	ND	0.130	1.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trimethylbenzene	"	ND	0.0800	1.00	"	"	--	--	--	--	--	--	"	U
1,3,5-Trimethylbenzene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
Vinyl chloride	"	ND	0.100	1.00	"	"	--	--	--	--	--	--	"	U
o-Xylene	"	ND	0.0700	1.00	"	"	--	--	--	--	--	--	"	U
m,p-Xylene	"	ND	0.210	2.00	"	"	--	--	--	--	--	--	"	U

<i>Surrogate(s):</i> 4-BFB	<i>Recovery:</i> 95.0%	<i>Limits:</i> 80-120%	"	07/06/08 18:23
1,2-DCA-d4	99.9%	80-120%	"	"
Dibromofluoromethane	99.9%	80-120%	"	"
Toluene-d8	99.9%	80-120%	"	"

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Volatile Organic Compounds per EPA Method 8260B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8070143

Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8070143-BS1)

Extracted: 07/06/08 16:00

Benzene	EPA 8260B	20.0	0.0900	1.00	ug/l	1x	--	20.0	99.8%	(80-120)	--	--	07/06/08 17:28	
Chlorobenzene	"	20.1	0.0500	1.00	"	"	--	"	100%	(80-124)	--	--	"	
1,1-Dichloroethene	"	19.9	0.120	1.00	"	"	--	"	99.4%	(78-120)	--	--	"	
Toluene	"	20.0	0.110	1.00	"	"	--	"	100%	(80-124)	--	--	"	
Trichloroethene	"	19.4	0.0800	1.00	"	"	--	"	97.0%	(80-132)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 105%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/06/08 17:28</i>		
<i>1,2-DCA-d4</i>		<i>100%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike (8070143-MS1)

QC Source: PRF0882-07

Extracted: 07/06/08 16:00

Benzene	EPA 8260B	19.9	0.0900	1.00	ug/l	1x	ND	20.0	99.5%	(80-124)	--	--	07/07/08 01:58	
Chlorobenzene	"	19.8	0.0500	1.00	"	"	ND	"	99.0%	(72.9-134)	--	--	"	
1,1-Dichloroethene	"	19.3	0.120	1.00	"	"	ND	"	96.4%	(79.3-127)	--	--	"	
Toluene	"	19.6	0.110	1.00	"	"	ND	"	97.8%	(79.7-131)	--	--	"	
Trichloroethene	"	19.1	0.0800	1.00	"	"	ND	"	95.5%	(68.4-130)	--	--	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 102%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/07/08 01:58</i>		
<i>1,2-DCA-d4</i>		<i>99.0%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

Matrix Spike Dup (8070143-MSD1)

QC Source: PRF0882-07

Extracted: 07/06/08 16:00

Benzene	EPA 8260B	20.8	0.0900	1.00	ug/l	1x	ND	20.0	104%	(80-124)	4.23%	(25)	07/07/08 02:25	
Chlorobenzene	"	20.2	0.0500	1.00	"	"	ND	"	101%	(72.9-134)	1.95%	"	"	
1,1-Dichloroethene	"	20.2	0.120	1.00	"	"	ND	"	101%	(79.3-127)	4.86%	"	"	
Toluene	"	20.4	0.110	1.00	"	"	ND	"	102%	(79.7-131)	4.40%	"	"	
Trichloroethene	"	20.0	0.0800	1.00	"	"	ND	"	100%	(68.4-130)	4.80%	"	"	
<i>Surrogate(s): 4-BFB</i>		<i>Recovery: 102%</i>		<i>Limits: 80-120%</i>		<i>"</i>						<i>07/07/08 02:25</i>		
<i>1,2-DCA-d4</i>		<i>101%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Dibromofluoromethane</i>		<i>103%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		
<i>Toluene-d8</i>		<i>102%</i>		<i>80-120%</i>		<i>"</i>						<i>"</i>		

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Richard D. Reid, Project Manager

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4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060964

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060964-BLK1)										Extracted: 06/25/08 17:30				
Acenaphthene	EPA 8270C	ND	3.00	5.00	ug/l	1x	--	--	--	--	--	--	07/01/08 17:03	U
Acenaphthylene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (a) anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (a) pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (b) fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (ghi) perylene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzo (k) fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Benzoic Acid	"	ND	50.0	50.0	"	"	--	--	--	--	--	--	"	U
Benzyl alcohol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
4-Bromophenyl phenyl ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Butyl benzyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chloro-3-methylphenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chloroaniline	"	ND	10.0	20.0	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroethoxy)methane	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroethyl)ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Bis(2-chloroisopropyl)ether	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
2-Chloronaphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Chlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Chlorophenyl phenyl ether	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Chrysene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Di-n-butyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Di-n-octyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Dibenzo (a,h) anthracene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Dibenzofuran	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
1,2-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
1,3-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
1,4-Dichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
3,3'-Dichlorobenzidine	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4-Dichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Diethyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4-Dimethylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Dimethyl phthalate	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4,6-Dinitro-2-methylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
2,4-Dinitrophenol	"	ND	15.0	25.0	"	"	--	--	--	--	--	--	"	U
2,4-Dinitrotoluene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,6-Dinitrotoluene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Bis(2-ethylhexyl)phthalate	"	ND	10.0	10.0	"	"	--	--	--	--	--	--	"	U
Fluoranthene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U

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Richard D. Reid, Project Manager

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Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060964

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060964-BLK1)										Extracted: 06/25/08 17:30				
Fluorene	EPA 8270C	ND	3.00	5.00	ug/l	1x	--	--	--	--	--	--	07/01/08 17:03	U
Hexachlorobenzene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Hexachlorobutadiene	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Hexachlorocyclopentadiene	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Hexachloroethane	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Indeno (1,2,3-cd) pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Isophorone	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Methylnaphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Methylphenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
3-,4-Methylphenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Naphthalene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Nitroaniline	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
3-Nitroaniline	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
4-Nitroaniline	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Nitrobenzene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2-Nitrophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
4-Nitrophenol	"	ND	10.0	25.0	"	"	--	--	--	--	--	--	"	U
N-Nitrosodi-n-propylamine	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
N-Nitrosodiphenylamine	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Pentachlorophenol	"	ND	5.00	10.0	"	"	--	--	--	--	--	--	"	U
Phenanthrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Phenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Pyrene	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
1,2,4-Trichlorobenzene	"	ND	5.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4,5-Trichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
2,4,6-Trichlorophenol	"	ND	3.00	5.00	"	"	--	--	--	--	--	--	"	U
Surrogate(s):	2-Fluorobiphenyl	Recovery:	60.9%	Limits:	22-120%	"							07/01/08 17:03	
	2-Fluorophenol		70.7%		5-120%	"							"	
	Nitrobenzene-d5		76.0%		26-127%	"							"	
	Phenol-d6		73.7%		4-121%	"							"	
	p-Terphenyl-d14		105%		37-130%	"							"	
	2,4,6-Tribromophenol		77.0%		21-129%	"							"	

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Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060964

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

LCS (8060964-BS1)

Extracted: 06/25/08 17:30

Acenaphthene	EPA 8270C	44.3	3.00	5.00	ug/l	1x	--	50.0	88.6%	(56-120)	--	--	07/01/08 17:25	
4-Chloro-3-methylphenol	"	46.5	3.00	5.00	"	"	--	"	93.0%	(37-131)	--	--	"	
2-Chlorophenol	"	42.3	3.00	5.00	"	"	--	"	84.6%	(31-130)	--	--	"	
1,4-Dichlorobenzene	"	23.0	5.00	5.00	"	"	--	"	46.0%	(8-124)	--	--	"	
2,4-Dinitrotoluene	"	43.5	3.00	5.00	"	"	--	"	86.9%	(50-127)	--	--	"	
4-Nitrophenol	"	46.7	10.0	25.0	"	"	--	"	93.4%	(1-157)	--	--	"	
N-Nitrosodi-n-propylamine	"	35.4	5.00	10.0	"	"	--	"	70.9%	(44-129)	--	--	"	
Pentachlorophenol	"	49.4	5.00	10.0	"	"	--	"	98.7%	(23-149)	--	--	"	
Phenol	"	42.8	3.00	5.00	"	"	--	"	85.5%	(1-145)	--	--	"	
Pyrene	"	53.1	3.00	5.00	"	"	--	"	106%	(56-125)	--	--	"	
1,2,4-Trichlorobenzene	"	29.9	5.00	5.00	"	"	--	"	59.9%	(33-116)	--	--	"	

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>Recovery:</i>	<i>78.0%</i>	<i>Limits:</i>	<i>22-120%</i>	<i>"</i>							<i>07/01/08 17:25</i>	
	<i>2-Fluorophenol</i>		<i>80.5%</i>		<i>5-120%</i>	<i>"</i>							<i>"</i>	
	<i>Nitrobenzene-d5</i>		<i>87.5%</i>		<i>26-127%</i>	<i>"</i>							<i>"</i>	
	<i>Phenol-d6</i>		<i>80.9%</i>		<i>4-121%</i>	<i>"</i>							<i>"</i>	
	<i>p-Terphenyl-d14</i>		<i>105%</i>		<i>37-130%</i>	<i>"</i>							<i>"</i>	
	<i>2,4,6-Tribromophenol</i>		<i>105%</i>		<i>21-129%</i>	<i>"</i>							<i>"</i>	

Matrix Spike (8060964-MS1)

QC Source: PRF0882-07

Extracted: 06/25/08 17:30

Acenaphthene	EPA 8270C	41.8	6.00	10.0	ug/l	2x	ND	50.0	83.6%	(20-150)	--	--	07/01/08 17:47	D
4-Chloro-3-methylphenol	"	41.8	6.00	10.0	"	"	ND	"	83.6%	(10-150)	--	--	"	D
2-Chlorophenol	"	36.7	6.00	10.0	"	"	ND	"	73.3%	"	--	--	"	D
1,4-Dichlorobenzene	"	22.4	10.0	10.0	"	"	ND	"	44.8%	(1-150)	--	--	"	D
2,4-Dinitrotoluene	"	42.2	6.00	10.0	"	"	ND	"	84.4%	(10-150)	--	--	"	D
4-Nitrophenol	"	41.4	20.0	50.0	"	"	ND	"	82.8%	(1-200)	--	--	"	J, D
N-Nitrosodi-n-propylamine	"	31.9	10.0	20.0	"	"	ND	"	63.9%	"	--	--	"	D
Pentachlorophenol	"	42.9	10.0	20.0	"	"	ND	"	85.8%	"	--	--	"	D
Phenol	"	32.5	6.00	10.0	"	"	ND	"	65.0%	"	--	--	"	D
Pyrene	"	53.2	6.00	10.0	"	"	ND	"	106%	(20-135)	--	--	"	D
1,2,4-Trichlorobenzene	"	29.2	10.0	10.0	"	"	ND	"	58.3%	(1-150)	--	--	"	D

<i>Surrogate(s):</i>	<i>2-Fluorobiphenyl</i>	<i>Recovery:</i>	<i>69.9%</i>	<i>Limits:</i>	<i>22-120%</i>	<i>"</i>							<i>07/01/08 17:47</i>	
	<i>2-Fluorophenol</i>		<i>71.2%</i>		<i>5-120%</i>	<i>"</i>							<i>"</i>	
	<i>Nitrobenzene-d5</i>		<i>76.4%</i>		<i>26-127%</i>	<i>"</i>							<i>"</i>	
	<i>Phenol-d6</i>		<i>72.1%</i>		<i>4-121%</i>	<i>"</i>							<i>"</i>	
	<i>p-Terphenyl-d14</i>		<i>102%</i>		<i>37-130%</i>	<i>"</i>							<i>"</i>	
	<i>2,4,6-Tribromophenol</i>		<i>98.1%</i>		<i>21-129%</i>	<i>"</i>							<i>"</i>	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 8060964

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (8060964-MSD1)			QC Source: PRF0882-07				Extracted: 06/25/08 17:30							
Acenaphthene	EPA 8270C	47.3	6.00	10.0	ug/l	2x	ND	50.0	94.5%	(20-150)	12.3% (50)	07/01/08 18:09	D	
4-Chloro-3-methylphenol	"	48.4	6.00	10.0	"	"	ND	"	96.8%	(10-150)	14.7%	"	D	
2-Chlorophenol	"	43.7	6.00	10.0	"	"	ND	"	87.5%	"	17.6%	"	D	
1,4-Dichlorobenzene	"	26.7	10.0	10.0	"	"	ND	"	53.3%	(1-150)	17.4%	"	D	
2,4-Dinitrotoluene	"	45.6	6.00	10.0	"	"	ND	"	91.2%	(10-150)	7.79%	"	D	
4-Nitrophenol	"	45.9	20.0	50.0	"	"	ND	"	91.9%	(1-200)	10.4%	"	J, D	
N-Nitrosodi-n-propylamine	"	36.7	10.0	20.0	"	"	ND	"	73.4%	"	13.9%	"	D	
Pentachlorophenol	"	46.9	10.0	20.0	"	"	ND	"	93.8%	"	9.00%	"	D	
Phenol	"	40.5	6.00	10.0	"	"	ND	"	80.9%	"	21.8%	"	D	
Pyrene	"	55.1	6.00	10.0	"	"	ND	"	110%	(20-135)	3.51%	"	D	
1,2,4-Trichlorobenzene	"	34.9	10.0	10.0	"	"	ND	"	69.9%	(1-150)	18.0%	"	D	
<i>Surrogate(s): 2-Fluorobiphenyl</i>		<i>Recovery:</i>	<i>82.2%</i>	<i>Limits: 22-120%</i>		<i>"</i>						<i>07/01/08 18:09</i>		
<i>2-Fluorophenol</i>			<i>81.9%</i>	<i>5-120%</i>		<i>"</i>						<i>"</i>		
<i>Nitrobenzene-d5</i>			<i>88.0%</i>	<i>26-127%</i>		<i>"</i>						<i>"</i>		
<i>Phenol-d6</i>			<i>85.0%</i>	<i>4-121%</i>		<i>"</i>						<i>"</i>		
<i>p-Terphenyl-d14</i>			<i>104%</i>	<i>37-130%</i>		<i>"</i>						<i>"</i>		
<i>2,4,6-Tribromophenol</i>			<i>105%</i>	<i>21-129%</i>		<i>"</i>						<i>"</i>		

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Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/15/08 14:26
	Project Manager:	Andrew Harvey	

Tentatively Identified Compounds per Volatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8070143 Water Preparation Method: EPA 5030B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8070143-BLK1)										Extracted: 07/06/08 16:00				
No TICS identified	EPA 8260B	ND		2.00	ug/l	1x	--	--	--	--	--	--	07/06/08 18:23	U

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Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created:
	Project Number:	Camp Bonneville, WA	07/15/08 14:26
	Project Manager:	Andrew Harvey	

Tentatively Identified Compounds per Semivolatile GC/MS (Est. Conc.) - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8060964 Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060964-BLK1)										Extracted: 06/25/08 17:30				
No TICS identified	EPA 8270C	ND	10.0	10.0	ug/l	1x	--	--	--	--	--	--	07/01/08 17:03	U

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Conventional Chemistry Parameters per APHA/EPA Methods - Laboratory Quality Control Results
 TestAmerica Portland

QC Batch: 8060957 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (8060957-DUP1)			QC Source: PRF0882-04					Extracted: 06/25/08 12:33							
pH	EPA 150.1	6.58			pH Units	1x	6.59	--	--	--	0.152% (25)		06/25/08 12:38		

QC Batch: 8070053 **Water Preparation Method: General Preparation**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (8070053-BLK1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	ND	0.00270	0.00500	mg/l	1x	--	--	--	--	--	--	07/07/08 17:59	U	
LCS (8070053-BS1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.106	0.00270	0.00500	mg/l	1x	--	0.100	106%	(85-115)	--	--	07/07/08 17:59		
Duplicate (8070053-DUP1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	ND	0.00270	0.00500	mg/l	1x	ND	--	--	--	NR	(20)	07/07/08 17:59	U	
Matrix Spike (8070053-MS1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.102	0.00270	0.00500	mg/l	1x	ND	0.100	102%	(75-125)	--	--	07/07/08 17:59		
Matrix Spike Dup (8070053-MSD1)			QC Source: PRF1016-01					Extracted: 07/02/08 06:38							
Nitrate/Nitrite-Nitrogen	EPA 353.2	0.102	0.00270	0.00500	mg/l	1x	ND	0.100	102%	(75-125)	0.489%	(20)	07/07/08 17:59		

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering
4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**
Project Number: Camp Bonneville, WA
Project Manager: Andrew Harvey

Report Created:
07/15/08 14:26

Conventional Chemistry Parameters per Standard Methods - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060978 Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060978-BLK1)										Extracted: 06/26/08 08:56				
Hydroxide Alkalinity	SM 2320B	ND	0.320	5.00	mg/L as CaCO3	1x	--	--	--	--	--	--	06/27/08 10:32	U
Bicarbonate Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U
Total Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	--	--	--	--	--	--	"	U

LCS (8060978-BS1)

Extracted: 06/26/08 08:56

Bicarbonate Alkalinity	SM 2320B	92.2	0.320	5.00	mg/L as CaCO3	1x	--	100	92.2%	(90-110)	--	--	06/27/08 10:32	U
Total Alkalinity	"	197	0.320	5.00	"	"	--	200	98.6%	"	--	--	"	U
Carbonate Alkalinity	"	105	0.320	5.00	"	"	--	100	105%	"	--	--	"	U

Duplicate (8060978-DUP1)

QC Source: PRF0882-07

Extracted: 06/26/08 08:56

Hydroxide Alkalinity	SM 2320B	ND	0.320	5.00	mg/L as CaCO3	1x	ND	--	--	--	NR (20)	--	06/27/08 10:32	U
Total Alkalinity	"	40.7	0.320	5.00	"	"	41.8	--	--	--	2.57%	"	"	U
Bicarbonate Alkalinity	"	40.7	0.320	5.00	"	"	41.8	--	--	--	2.57%	"	"	U
Carbonate Alkalinity	"	ND	0.320	5.00	"	"	ND	--	--	--	NR	"	"	U

QC Batch: 8060986

Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060986-BLK1)										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	ND	3.10	10.0	mg/l	1x	--	--	--	--	--	--	06/26/08 17:28	U
LCS (8060986-BS1)										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	60.0	3.10	10.0	mg/l	1x	--	50.0	120%	(80-120)	--	--	06/26/08 17:28	U
Duplicate (8060986-DUP1)										QC Source: PRF0904-01				
										Extracted: 06/26/08 10:51				
Total Suspended Solids	SM 2540D	16.0	1.24	4.00	mg/l	1x	16.0	--	--	--	0.00% (20)	--	06/26/08 17:28	U

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Anions per EPA Method 300.0 - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 8060946 **Water Preparation Method: Wet Chem**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8060946-BLK1)										Extracted: 06/25/08 10:56				
Chloride	EPA 300.0	ND	0.0270	0.500	mg/l	1x	--	--	--	--	--	--	06/25/08 11:46	U
Sulfate	"	ND	0.198	1.00	"	"	--	--	--	--	--	--	"	U
LCS (8060946-BS1)										Extracted: 06/25/08 10:56				
Chloride	EPA 300.0	10.2	0.0270	0.500	mg/l	1x	--	10.0	102%	(90-110)	--	--	06/25/08 12:00	
Sulfate	"	31.6	0.198	1.00	"	"	--	30.0	105%	"	--	--	"	
Duplicate (8060946-DUP1)										QC Source: PRF0882-04 Extracted: 06/25/08 10:56				
Sulfate	EPA 300.0	0.420	0.198	1.00	mg/l	1x	0.450	--	--	--	6.90% (20)	--	06/25/08 12:14	J
Chloride	"	1.33	0.0270	0.500	"	"	1.34	--	--	--	0.749% "	--	"	
Matrix Spike (8060946-MS1)										QC Source: PRF0882-04 Extracted: 06/25/08 10:56				
Chloride	EPA 300.0	3.52	0.0300	0.556	mg/l	1x	1.34	2.22	98.2%	(80-120)	--	--	06/25/08 12:28	
Sulfate	"	4.89	0.220	1.11	"	"	0.450	4.44	99.9%	"	--	--	"	
Matrix Spike (8060946-MS2)										QC Source: PRF0891-04 Extracted: 06/25/08 10:56				
Sulfate	EPA 300.0	4.88	0.220	1.11	mg/l	1x	0.380	4.44	101%	(80-120)	--	--	06/25/08 17:23	
Chloride	"	2.98	0.0300	0.556	"	"	0.820	2.22	97.1%	"	--	--	"	
Matrix Spike Dup (8060946-MSD1)										QC Source: PRF0882-04 Extracted: 06/25/08 10:56				
Chloride	EPA 300.0	3.52	0.0300	0.556	mg/l	1x	1.34	2.22	98.2%	(80-120)	0.00% (20)	--	06/25/08 12:42	
Sulfate	"	4.92	0.220	1.11	"	"	0.450	4.44	101%	"	0.680% "	--	"	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Conventional Chemistry Parameters by APHA/EPA Methods - Laboratory Quality Control Results
 TestAmerica Seattle

QC Batch: 8F26025 Water Preparation Method: General Preparation

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8F26025-BLK1)								Extracted: 06/26/08 10:30						
Nitrite-Nitrogen	EPA 353.2	ND	---	0.0100	mg/l as N	1x	--	--	--	--	--	--	06/26/08 10:53	
LCS (8F26025-BS1)								Extracted: 06/26/08 10:30						
Nitrite-Nitrogen	EPA 353.2	1.09	---	0.0100	mg/l as N	1x	--	1.00	109%	(90-110)	--	--	06/26/08 10:53	
Duplicate (8F26025-DUP1)				QC Source: PRF0882-04				Extracted: 06/26/08 10:30						
Nitrite-Nitrogen	EPA 353.2	ND	---	0.0100	mg/l as N	1x	ND	--	--	--	NR (20)	--	06/26/08 10:53	
Matrix Spike (8F26025-MS1)				QC Source: PRF0882-04				Extracted: 06/26/08 10:30						
Nitrite-Nitrogen	EPA 353.2	1.08	---	0.0100	mg/l as N	1x	ND	1.00	108%	(75-125)	--	--	06/26/08 10:53	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
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Total Organic Carbon, Combustion or Oxidation - Laboratory Quality Control Results
 TestAmerica Tacoma

QC Batch: 33844 Water Preparation Method: NA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (104914D)			QC Source: PRF0882-07					Extracted: 07/08/08 13:40							
Total Organic Carbon	415.1	10.6	---	1.0	mg/L	1x	ND	10.0	106%	(49-142)	3%	(13)	07/08/08 13:40		
Matrix Spike (104914S)			QC Source: PRF0882-07					Extracted: 07/08/08 13:40							
Total Organic Carbon	415.1	10.3	---	1.0	mg/L	1x	ND	10.0	103%	(49-142)	--	--	07/08/08 13:40		
Duplicate (104914X)			QC Source: PRF0882-07					Extracted: 07/08/08 13:40							
Total Organic Carbon	415.1	ND	---	1.0	mg/L	1x	ND	--	--	--	NC%	(20)	07/08/08 13:40		
Blank (580-33844-1)			QC Source:					Extracted: 07/08/08 13:40							
Total Organic Carbon	415.1	ND	---	1.0	mg/L	1x	--	--	--	--	--	--	07/08/08 13:40		
LCS (580-33844-2)			QC Source:					Extracted: 07/08/08 13:40							
Total Organic Carbon	415.1	13.9	---	1.0	mg/L	1x	--	15.0	93%	(80-120)	--	--	07/08/08 13:40		

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
--	---	-----------------------------------

Total Organic Carbon, Combustion or Oxidation Diss - Laboratory Quality Control Results
 TestAmerica Tacoma

QC Batch: 33933 **Water Preparation Method: NA**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (104914D)			QC Source: PRF0882-07					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	11.5	---	1.0	mg/L	1x	ND	10.0	115%	(49-142)	2%	(13)	07/09/08 15:41	
Matrix Spike (104914S)			QC Source: PRF0882-07					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	11.3	---	1.0	mg/L	1x	ND	10.0	113%	(49-142)	--	--	07/09/08 15:41	
Duplicate (104914X)			QC Source: PRF0882-07					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	ND	---	1.0	mg/L	1x	ND	--	--	--	NC%	(20)	07/09/08 15:41	
Blank (580-33933-1)			QC Source:					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	ND	---	1.0	mg/L	1x	--	--	--	--	--	--	07/09/08 15:41	
LCS (580-33933-2)			QC Source:					Extracted: 07/09/08 15:41						
Total Organic Carbon	415.1 Dissolved	16.4	---	1.0	mg/L	1x	--	15.0	109%	(80-120)	--	--	07/09/08 15:41	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name: Camp Bonneville, WA Project Number: Camp Bonneville, WA Project Manager: Andrew Harvey	Report Created: 07/15/08 14:26
--	---	-----------------------------------

EPA-DW1 314.0 - Laboratory Quality Control Results
 TestAmerica Denver

QC Batch: 8191165 WATER Preparation Method: 314

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike Dup (D8F260324006D)			QC Source: PRF0882-07					Extracted: 07/08/08 16:26						
Perchlorate	EPA-DW1 314.0	9.94	---	1	ug/L	1x	ND	10	99%	(80-120)	0.33%	(15)	07/08/08 22:24	
Matrix Spike (D8F260324006S)			QC Source: PRF0882-07					Extracted: 07/08/08 16:26						
Perchlorate	EPA-DW1 314.0	9.9	---	1	ug/L	1x	ND	10	99%	(80-120)	--	--	07/08/08 22:03	
Blank (D8G090000165B)			QC Source:					Extracted: 07/08/08 16:26						
Perchlorate	EPA-DW1 314.0	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/08/08 17:08	
LCS (D8G090000165C)			QC Source:					Extracted: 07/08/08 16:26						
Perchlorate	EPA-DW1 314.0	9.43	---	1	ug/L	1x	--	10	94%	(85-115)	--	--	07/08/08 16:26	
LCS Dup (D8G090000165L)			QC Source:					Extracted: 07/08/08 16:26						
Perchlorate	EPA-DW1 314.0	9.51	---	1	ug/L	1x	--	10	95%	(85-115)	0.82%	(15)	07/08/08 16:47	

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

SW846 8330 - Laboratory Quality Control Results

TestAmerica Denver

QC Batch: 8182428

WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Matrix Spike Dup (D8F260324006D)			QC Source: PRF0882-07					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	2.09	---	1	ug/L	1x	ND	2.01	104%	(73-122)	2.7%	(21)	07/03/08 15:28		
1,3-Dinitrobenzene	"	2.08	---	0.4	"	"	ND	"	104%	(78-115)	1.9%	(19)	"		
2,4,6-Trinitrotoluene	"	2.2	---	0.4	"	"	ND	"	110%	(73-116)	2.6%	"	"		
2,4-Dinitrotoluene	"	2.17	---	0.4	"	"	ND	"	108%	(75-115)	1.5%	(21)	"		
2,6-Dinitrotoluene	"	2.21	---	0.2	"	"	ND	"	110%	(77-115)	3.7%	(20)	"		
2-Amino-4,6-dinitrotoluene	"	2.05	---	0.2	"	"	ND	"	102%	(75-115)	2.1%	(18)	"		
2-Nitrotoluene	"	1.45	---	0.4	"	"	ND	"	72%	(35-115)	17%	(43)	"		
3-Nitrotoluene	"	1.74	---	0.4	"	"	ND	"	87%	(30-115)	5.3%	(74)	"		
4-Amino-2,6-dinitrotoluene	"	1.94	---	0.2	"	"	ND	"	97%	(57-115)	3.7%	(22)	"		
4-Nitrotoluene	"	1.74	---	1	"	"	ND	"	87%	(40-115)	7.9%	(44)	"		
HMX	"	2.26	---	0.4	"	"	ND	"	112%	(78-115)	3.9%	(26)	"		
Nitrobenzene	"	1.52	---	0.4	"	"	ND	"	75%	(51-115)	3.8%	(32)	"		
Nitroglycerin	"	22.6	---	3	"	"	ND	20.1	113%	(71-126)	2.2%	(21)	"		
PETN	"	21.3	---	2	"	"	ND	"	106%	(67-107)	1.7%	(30)	"		
Picric Acid	"	1.87	---	0.4	"	"	ND	2.01	93%	(50-150)	8.5%	"	"		
RDX	"	2.2	---	0.2	"	"	ND	"	109%	(69-118)	3.2%	(37)	"		
Tetryl	"	2.4	---	0.2	"	"	ND	"	120%	(69-127)	1.9%	(24)	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 107%

Limits: 75-118% "

07/03/08 15:28

Matrix Spike (D8F260324006S)

QC Source: PRF0882-07

Extracted: 06/30/08 18:00

1,3,5-Trinitrobenzene	SW846 8330	2.15	---	1	ug/L	1x	ND	1.97	109%	(73-122)	--	--	07/03/08 15:04	
1,3-Dinitrobenzene	"	2.12	---	0.4	"	"	ND	"	108%	(78-115)	--	--	"	
2,4,6-Trinitrotoluene	"	2.26	---	0.4	"	"	ND	"	115%	(73-116)	--	--	"	
2,4-Dinitrotoluene	"	2.2	---	0.4	"	"	ND	"	112%	(75-115)	--	--	"	
2,6-Dinitrotoluene	"	2.29	---	0.2	"	"	ND	"	117%	(77-115)	--	--	"	a
2-Amino-4,6-dinitrotoluene	"	2.09	---	0.2	"	"	ND	"	106%	(75-115)	--	--	"	
2-Nitrotoluene	"	1.23	---	0.4	"	"	ND	"	62%	(35-115)	--	--	"	
3-Nitrotoluene	"	1.66	---	0.4	"	"	ND	"	84%	(30-115)	--	--	"	
4-Amino-2,6-dinitrotoluene	"	2.02	---	0.2	"	"	ND	"	102%	(57-115)	--	--	"	
4-Nitrotoluene	"	1.61	---	1	"	"	ND	"	82%	(40-115)	--	--	"	
HMX	"	2.35	---	0.4	"	"	ND	"	119%	(78-115)	--	--	"	a
Nitrobenzene	"	1.46	---	0.4	"	"	ND	"	74%	(51-115)	--	--	"	
Nitroglycerin	"	23.1	---	3	"	"	ND	19.7	118%	(71-126)	--	--	"	
PETN	"	20.9	---	2	"	"	ND	"	106%	(67-107)	--	--	"	
Picric Acid	"	1.72	---	0.4	"	"	ND	1.97	87%	(50-150)	--	--	"	
RDX	"	2.27	---	0.2	"	"	ND	"	115%	(69-118)	--	--	"	
Tetryl	"	2.45	---	0.2	"	"	ND	"	125%	(69-127)	--	--	"	

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 111%

Limits: 75-118% "

07/03/08 15:04

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering

4412 SW Corbett Ave.
Portland, OR 97239

Project Name: **Camp Bonneville, WA**

Project Number: Camp Bonneville, WA

Project Manager: Andrew Harvey

Report Created:

07/15/08 14:26

SW846 8330 - Laboratory Quality Control Results

TestAmerica Denver

QC Batch: 8182428

WATER Preparation Method: 3535

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Blank (D8F30000428B)			QC Source:					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	ND	---	1	ug/L	1x	--	--	--	--	--	--	07/03/08 11:39		
1,3-Dinitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,4,6-Trinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,4-Dinitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
2,6-Dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
2-Amino-4,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
2-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
3-Nitrotoluene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
4-Amino-2,6-dinitrotoluene	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
4-Nitrotoluene	"	ND	---	1	"	"	--	--	--	--	--	--	"		
HMX	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
Nitrobenzene	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
Nitroglycerin	"	ND	---	3	"	"	--	--	--	--	--	--	"		
PETN	"	ND	---	2	"	"	--	--	--	--	--	--	"		
Picric Acid	"	ND	---	0.4	"	"	--	--	--	--	--	--	"		
RDX	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		
Tetryl	"	ND	---	0.2	"	"	--	--	--	--	--	--	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 106%

Limits: 75-118% "

07/03/08 11:39

LCS (D8F30000428C)

LCS (D8F30000428C)			QC Source:					Extracted: 06/30/08 18:00							
1,3,5-Trinitrobenzene	SW846 8330	2.07	---	1	ug/L	1x	--	2	103%	(73-122)	--	--	07/03/08 12:03		
1,3-Dinitrobenzene	"	2.05	---	0.4	"	"	--	"	103%	(78-115)	--	--	"		
2,4,6-Trinitrotoluene	"	2.14	---	0.4	"	"	--	"	107%	(73-116)	--	--	"		
2,4-Dinitrotoluene	"	2.1	---	0.4	"	"	--	"	105%	(75-115)	--	--	"		
2,6-Dinitrotoluene	"	2.17	---	0.2	"	"	--	"	109%	(77-115)	--	--	"		
2-Amino-4,6-dinitrotoluene	"	2	---	0.2	"	"	--	"	100%	(75-115)	--	--	"		
2-Nitrotoluene	"	1.18	---	0.4	"	"	--	"	59%	(35-115)	--	--	"		
3-Nitrotoluene	"	1.57	---	0.4	"	"	--	"	78%	(30-115)	--	--	"		
4-Amino-2,6-dinitrotoluene	"	1.96	---	0.2	"	"	--	"	98%	(57-115)	--	--	"		
4-Nitrotoluene	"	1.56	---	1	"	"	--	"	78%	(40-115)	--	--	"		
HMX	"	2.21	---	0.4	"	"	--	"	110%	(78-115)	--	--	"		
Nitrobenzene	"	1.32	---	0.4	"	"	--	"	66%	(51-115)	--	--	"		
Nitroglycerin	"	21.9	---	3	"	"	--	20	109%	(71-126)	--	--	"		
PETN	"	20.6	---	2	"	"	--	"	103%	(67-107)	--	--	"		
Picric Acid	"	1.82	---	0.4	"	"	--	2	91%	(50-150)	--	--	"		
RDX	"	2.17	---	0.2	"	"	--	"	109%	(69-118)	--	--	"		
Tetryl	"	2.36	---	0.2	"	"	--	"	118%	(69-127)	--	--	"		

Surrogate(s): 1,2-Dinitrobenzene

Recovery: 106%

Limits: 75-118% "

07/03/08 12:03

TestAmerica Portland



Richard D. Reid, Project Manager

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PBS Engineering 4412 SW Corbett Ave. Portland, OR 97239	Project Name:	Camp Bonneville, WA	Report Created: 07/15/08 14:26
	Project Number:	Camp Bonneville, WA	
	Project Manager:	Andrew Harvey	

Notes and Definitions

Report Specific Notes:

- a - Spiked analyte recovery is outside stated control limits.
- B - Analyte was detected in the associated Method Blank.
- B4 - Target analyte detected in blank at/above method acceptance criteria.
- D - Data reported from a preparation or analytical dilution.
- H - Sample analysis performed past method-specified holding time.
- J - Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M8 - The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).
- R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.
- RL1 - Reporting limit raised due to sample matrix effects.
- U - Analyte included in the analysis but not detected.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Richard D. Reid, Project Manager

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CHAIN OF CUSTODY REPORT

Work Order #: **PRF0882**

CLIENT: PBS/ Baker
 REPORT TO: andrew_harvey@pbsenv.com & christina_johnson@pbsenv.com
 and appropriate personnel at Baker

INVOICE TO: Baker

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses
 10 7 5 4 3 2 1 <1

ADDRESS: Portland, Oregon
 PHONE: (503)-417-7693 FAX:

P.O. NUMBER:

STD. Petroleum Hydrocarbon Analyses
 5 4 3 2 1 <1

PROJECT NAME: Camp Bonneville GW Sampling

REQUESTED ANALYSES

PROJECT NUMBER: 70489 Task 6212

SAMPLED BY: Barb Lary

STD.
 OTHER Specify:

* Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Total Metals + Hg	Dissolved Metals, Hg	VOCs + TICs by 8260B	SVOCs + TICs by 8270	NWTPH-Dx	NWTPH-Gx	Explosives, NG, PETN by 8330	Picric Acid 8303	Perchlorate by 314.1	TOC 415.1 & nitrate 353.2	DOC by 415.1	TSS, Alkalinity, chloride, nitrite, sulfate, pH	MATRIX	# OF	COMMENTS/SAMPLER'S INITIAL	NCA WO
														(W, S, O)	CONT.		ID
1 TB229	6/24/08 9:30			X										W	1		
2 1924 MW17W	10:10			X				X		X				W	9		
3 1924 MW18W	11:10			X				X		X				W	9		
4 19LC MW03SW	12:30	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
5 19LC MW460W	12:45	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
6 19LC MW04DW	14:40	X	X	X	X	X	X	X	X	X	X	X	X	W	22		
7 19LC MW04SW	16:15	X	X	X	X	X	X	X	X	X	X	X	X	W	24	EXTRA FOR LAB MS/MSD	
8																	
9																	
10																	
11																	
12																	
13																	

RELINQUISHED BY: *Barbara E. Lary*
 PRINT NAME: BARBARA E. LARY FIRM: PBS
 RELINQUISHED BY: *TRB*
 PRINT NAME: TRB FIRM: TRB

DATE: 6/25/08
 TIME: 0820
 DATE: 0625-08
 TIME: 0945

RECEIVED BY: *[Signature]*
 PRINT NAME: Camp Sample FIRM: TRB
 RECEIVED BY:
 PRINT NAME: FIRM: TIME:

ADDITIONAL REMARKS: 5 COOLERS TOTAL All VOCs in 1 cooler w/ TB,

TEMP: 0.7°C .2°C
 2.4°C 1.2°C
 0.5°C

TestAmerica Sample Receipt Checklist

Cooler ID(s):

Received by: _____

Unpacked by: _____

Logged-in by: _____

Work Order No. PRF0882

(section A)

(section B)

Client: PBS

Date: 6-25-08

Date: 6/25/08

Date: 6/25/08

Project: Camp Bonneville

Time: 0945

Initials: RLR

Initials: PS

Temperature out of range:

Initials: MS

- Not enough Ice
- No Ice
- Ice Melted
- W/in 4 Hours
- Other: _____

***ESI Clients (see Section C)

Cooler Temperature (IR): 10.7, 24, 25, 12 °C plastic glass NA (oil/air OR ESI client)

Temperature Blank: _____ °C DIGI #1 #2

A Custody Seals: (# _____)

B Sample Status:
(If N circled, see NOD)

Signature: Y N Dated: _____

None

Received from:

TA Courier

General:

Intact? Y N

Container Type:

#Cooler(s)

Envoy

Containers Match COC? Y N none given

#Box(s)

UPS

IDs Match COC? Y N

None (#Other: _____)

Fed Ex

For Analyses Requested:

Cyanide checked? Y N NA

Coolant Type:

Gel/ Blue Ice

Client

Correct Type & Preservation? Y N

Loose Ice

TDP

Adequate Volume? Y N

None

USPS

Within Hold Time? Y N

Mid-Valley

Volatiles/ Oil Quality:

Packing Material:

Bubble Bags

GS/TA

VOAs/ Syringes free of Headspace? Y N NA

Styrofoam Cubbies

GS/Envoy

TB on COC? not provided Y N NA

Peanuts

Other: _____

Metals:

HNO3 Preserved? Y N NA

None (#Other: _____)

Dissolved Metals Filtered? Y N NA

C ***ESI Clients Only:

FED EX/ UPS: Was the tracking paper keepable? YES NO

Temperature Blank: _____ °C not provided DIGI #1 #2

If circled NO, what is the Tracking number? _____

All preserved bottles checked Y N NA (voas/soils/all unp.)

FED EX Goldstreak UPS DHL Other: _____

All preserved accordingly? Y N (see NOD) NA (voas/soils/all unp.)

Project Managers:

Comments: _____

PM Reviewed: _____ (Initial/Date)

APPENDIX C

Monitoring Well Boring Logs
(on enclosed CD)



LOG OF BORING LC-MW-01S

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/12/02
End Date : 11/12/02
Start Time : 0830
Weather : Raining

Drilling Company : Cascade Drilling, Inc
Drillers : Todd Mecham
: Rowan Miller

Depth in	Well: LC-MW-01S Elev.: 287.16	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0 5 10 15 20 25		<p>DARK YELLOWISH BROWN SILTY CLAY WITH GRAVEL</p> <p>SLIGHTLY SILTY GRAVEL- YELLOWISH BROWN SLIGHTLY SANDY SILTY GRAVEL- MIXED GRAVEL, PULVERIZED</p> <p>GRAY SILTY PULVERIZED RED GRAVEL WITH SOME SAND (5%)</p> <p>BOTTOM OF HOLE 21'</p>	<p>WET- LOTS OF RAIN INTO HOLE FOR 2 DAYS</p> <p>WET</p>	<p>BOREHOLE DEPTH : 21' BORE DIAMETER : 7"</p> <p>WELL LOCATION: NORTH BOUNDARY WELL BY LACAMAS CREEK</p> <p>DRILLING METHOD: TRI-CONE ROLLER BIT ADVANCED THRU 7" CASING</p> <p>WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC</p> <p>OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED</p> <p>HEIGHT OF CASING ABOVE GROUND 3'</p> <p>MONUMENT NO. AHA-359</p> <p>ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.</p>



LOG OF BORING LC-MW-01D

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

Geologist : Mary Grez
 Start Date : 11/9/02
 End Date : 11/10/02
 Start Time : 1230
 Weather : Overcast, Showers, Some Sun

Drilling Company : Cascade Drilling Inc.
 Drillers : Todd Mecham
 : Rowan Miller
 : David Gose

Depth in	Well: LC-MW-01D Elev.: 287.58	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		DARK YELLOWISH-BROWN SILTY CLAY WITH 50% GRAVEL-FINE TO MEDIUM SOME PULVERIZED	MOIST	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.
5		VERY DARK BROWN CLAYEY GRAVEL- 90% GRAVEL, SOME SILT POSSIBLE GRAVEL UP TO 1" SIZE, PULVERIZED	MOIST	
10		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 MOIST, PROBABLE WATER TABLE AT 12'-14'	
15		DARK GRAY SILTY SANDY MEDIUM GRAVEL AND COBBLES-BACK TO OLIVE-BROWN AT 12'	CHECK FOR WATER AT 15'. POSSIBLE MOISTURE. 1st MATERIAL IS WET. DRILLING TO 35' AND LET SIT OVERNIGHT	
20			VERY WET 4-6 BLOWS/FT	
25			MOIST TO WET 14 BLOWS/FT	
30		CLEAN PULVERIZED GRAVEL MOSTLY CHERT	WET	
35		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.	
38		CLEAN GRAY GRAVEL WITH SOME SILT AND VERY FINE SAND		
40		38' LIGHT OLIVE YELLOW SILT, VERY SLIGHT CLAY. POSSIBLE CONFINING ZONE OR TOP OF BEDROCK.		
		BOTTOM OF HOLE 39.83'		



LOG OF BORING LC-MW-02S

(Page 1 of 1)

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	

Depth in	Well: LC-MW-02S Elev.: 288.49	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		REDDISH BROWN SLIGHTLY SANDY CLAYEY SILT WITH SOME GRAVEL		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.
5				
10		LIGHT REDDISH BROWN CLAYEY SILT, LITTLE BIT OF GRAVEL AT 9'		
15		OLIVE BROWN SANDY SILTY GRAVEL		
		BOTTOM OF HOLE 16'	WET AT 12 FEET	



LOG OF BORING LC-MW-02D

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/12/02
End Date : 11/12/02
Start Time : 1300
Weather : Overcast, Raining

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: David Gose

Depth in Well: LC-MW-02D Elev.: 288.49	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
	<p>REDDISH-BROWN SLIGHTLY SILTY SAND, SOME GRAVEL</p> <p>GRAVELLY REDDISH-BROWN SANDY SILTY GRAVEL. (PULVERIZED GRAY GRAVEL) GRADUALLY LESS SILT AND SAND, CLEANER GRAVEL</p> <p>OLIVE-BROWN SLIGHTLY SANDY SILTY GRAVEL, (ROUNDED PEBBLES AND PULVERIZED ROCK)</p> <p>OLIVE-BROWN SLIGHTLY SILTY GRAVEL. (PULVERIZED GRAY ROCK). SOME VERY CLEAN GRAVEL LAYERS INTERSPERSED WITH SILT, SAND, AND GRAVEL LAYERS</p> <p>BOTTOM OF HOLE 36'</p>	<p>PUMPING WATER INTO HOLE AT 3'</p> <p>10 BLOWS/FT DONE PUMPING WATER USED ABOUT 40 GAL.</p> <p>WET</p> <p>WATER BLEW OUT OF HOLE. PRODUCTIVE ZONE.</p> <p>WATER COMING UP OUT OF HOLE.</p>	<p>Bore Hole Depth : 36' Bore Diameter : 7"</p> <p>WELL LOCATION: 2ND WELL LOCATION SOUTH OF LACAMAS CREEK ALONG BOUNDARY.</p> <p>DRILLING METHOD: TRI-CONE BIT ADVANCED THROUGH 7" CASING</p> <p>WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC</p> <p>OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.</p> <p>HEIGHT OF CASING ABOVE GROUND 3.1' MONUMENT NO. AHA-357</p> <p>HOLE HAND-AUGERED TO 6', NO WATER IN 6" BOREHOLE.</p> <p>NO CENTRALIZERS USED.</p> <p>SCREENED 25' TO 35' BECAUSE IT'S A PRODUCTIVE ZONE.</p> <p>USED FORMATION WATER TO HYDRATE BENTONITE.</p> <p>ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.</p>



LOG OF BORING LC-MW-03S

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/13/02
End Date : 11/13/02
Start Time : 1400
Weather : Rainy, Overcast

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: Andre Bedrik

Depth in	Well: LC-MW-03S Elev.: 288.56	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		REDDISH BROWN SLIGHTLY SANDY SILT WITH GRAVEL. UP TO 80% GRAVEL AND SMALL AMOUNT OF CLAY		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.
5			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				



LOG OF BORING LC-MW-03D

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/13/02
End Date : 11/14/02
Start Time : 1600
Weather : Overcast, Rainy

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: Andre Bednik

Depth in	Well: LC-MW-03D Elev.: 288.50	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		REDDISH-BROWN SANDY SILT WITH GRAVEL	DRY 9-10 BLOWS/FT	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.
5		OLIVE-BROWN SLIGHTLY SANDY SILT WITH SOME GRAVEL	MOIST	
10		OLIVE-BROWN SLIGHTLY SANDY SILTY MIXED GRAVEL. SOME ZONES MOSTLY SILT, SOME MORE GRAVEL.	VERY SOFT ZONE, WET WATER COMING UP	
15		MOSTLY GRAY PULVERIZED GRAVEL WITH SILT, SOME SAND.	EASY CASING PENETRATION	
20	GRAYISH-BROWN CLAYEY SILT			
25	BOTTOM OF HOLE 37.17'			



LOG OF BORING LC-MW-04S

(Page 1 of 1)

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

Geologist : Mary Grez
 Start Date : 11/17/02
 End Date : 11/17/02
 Start Time : 0815
 Weather : Overcast, Passing Rain

Drilling Company : Cascade Drilling Inc.
 Drillers : Matt Ross
 : Jesse Cannon
 : Matt Slobig

Depth in	Well: LC-MW-04S Elev.: 288.83	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0 5 10 15 20 25		<p>DARK BROWN GRAVELLY SILT, SOME CLAY AND SAND.</p> <p>GRAYISH BROWN SILTY GRAVEL (UP TO 2" ROUND GRAVEL) WITH SOME SAND AND CLAY.</p> <p>BOTTOM OF HOLE 14'</p>	<p>MOIST AT 5'</p> <p>VERY HARD DRILLING BECAUSE OF GRAVEL AT 10'. WET AT 10' FINISHED HOLE AT 14' BECAUSE OF VERY HARD DRILLING WITH AUGER</p>	<p>Bore Hole Depth : 14' Bore Diameter : 6"</p> <p>WELL LOCATION: SOUTH WELL LOCATION FROM LACAMAS CREEK ALONG BOUNDARY.</p> <p>DRILLING METHOD: CME 580 WITH 6" AUGER AND WOOD PLUG</p> <p>HAND AUGER TO 5'</p> <p>WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC</p> <p>OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED</p> <p>HEIGHT OF CASING ABOVE GROUND 2.8'</p> <p>MONUMENT NO. AHA-375</p> <p>ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.</p>



LOG OF BORING LC-MW-04D

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/13/02
End Date : 11/13/02
Start Time : 0915
Weather : Rainy

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: Andre Bednik

Depth in	Well: LC-MW-04D Elev.: 289.16	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0	CONCRETE	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" 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
5				
10	GROUT RISER	OLIVE-BROWN SANDY SILTY PULVERIZED GRAY AND MULTICOLOR GRAVEL.		OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED. HEIGHT OF CASING ABOVE GROUND 2.63'
15				MONUMENT NO. AHA-361
20	BENTONITE	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.		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.
25	SAND 20-40			
30	SAND 2-12 SCREEN			
35		OLIVE-BROWN SILT AND SANDY SILT AT 34.67'		
34.67		BOTTOM OF HOLE 34.67'		



LOG OF BORING LC-MW-05S

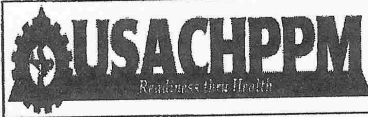
(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/15/02
End Date : 11/15/02
Start Time : 1140
Weather : Sunny, Slightly Cloudy

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
: Jesse Cannon
: Matt Slobig

Depth in	Well: LC-MW-05S Elev.: 306.40	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
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'	Bore Hole Depth : 37' Bore Diameter : 6"
5		DARK RED BROWN SILT WITH MOTTLES OF GRAY, VEINS OF RED, GRAY, AND PURPLE IN SPLITSPOON	LC-MW-05-2 1200	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.
10			LC-MW-05S-5 1210 16 BLOWS/ 6"	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.
15		BRIGHT BLUE-GRAY STIFF SILT	LC-MW-05S-15 1230	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
20		YELLOWISH-BROWN SLIGHTLY CLAYEY SILT WITH VARIABLE AMOUNTS OF GRAVEL AND INCREASING CLAY WITH DEPTH	STILL MOIST, NOT WET	OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED. HEIGHT OF CASING ABOVE GROUND 3.7'
25	CLAYEY SILT	WET AT 27'	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.	
30			TREMIED BENTONITE GROUT FROM TOP OF 20-40 SAND TO 2' BGS.	
35			ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.	
40				
45				
		BOTTOM OF HOLE 37'		



LOG OF BORING LC-MW-05D

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/7/02
End Date : 11/8/02
Start Time : 1030
Weather : Overcast, Rainy

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: David Gose

Depth in Well: LC-MW-05D Elev.: 306.34	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
	<p>BROWN SLIGHTLY SANDY SILT WITH FINE GRAVEL.</p> <p>DARK BROWN SILT WITH 5% FINE GRAVEL.</p> <p>DARK REDDISH-BROWN SILTY CLAY WITH 25% FINE GRAVEL, ANGULAR AND 2% ROUNDED 1/2"-1" GRAVEL.</p> <p>DARK REDDISH-BROWN SILTY CLAYEY GRAVEL. FINE TO 1/4" GRAVEL. ANGULAR TO ROUNDED. COARSENING WITH DEPTH.</p> <p>DARK YELLOWISH-BROWN SLIGHTLY SILTY CLAY WITH FINE GRAVEL.</p> <p>GRAYISH-BROWN SILT AND SLIGHTLY CLAYEY SILT, BARELY ANY GRAVEL.</p> <p>GRAYISH-BROWN SILTY FINE TO MEDIUM GRAVEL</p> <p>FINE GRAVELY GRAYISH BROWN SILT</p>	<p>DRY</p> <p>SOMEWHAT MOIST</p> <p>8 BLOWS/ FT MOIST (10')</p> <p>14 BLOWS/ FT AT 20'.</p> <p>CHECK FOR GROUND WATER AT 24'. LET SIT FOR 20 MINUTES. NO WATER.</p>	<p>Bore Hole Depth : 63.5' Bore Diameter : 7"</p> <p>WELL LOCATION: EAST SIDE OF DA-3 CRATER. WELL PAIR WITH LC-MW-05S</p> <p>DRILLING METHOD: AIR HAMMER DRIVEN THROUGH 7" CASING.</p> <p>WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC</p> <p>OPEN TRIANGLE: DEPTH TO WATER BEFORE DEVELOPING. CLOSED TRIANGLE: DEPTH WATER ENCOUNTERED.</p> <p>HEIGHT OF CASING ABOVE GROUND N/A MONUMENT NO. AHA-360</p> <p>USE POTABLE WATER AT 20' BECAUSE HOSES ARE PLUGGING WITH SILT.</p> <p>USED ABOUT 20 GALLONS WITH GOOD RECOVERY.</p> <p>POTABLE WATER SOURCE: CITY OF PORTLAND.</p> <p>PVC CASING EXTENDED ON 2/1 1/03 AND NEW TOP OF CASING MARKED FOR SURVEYING.</p> <p>ALL WELLS COMPLETED WITH STEEL SURFACE MONUMENT SET 2' DEEP INTO CONCRETE WITH A CONCRETE PAD AND THREE PROTECTIVE BALLARDS PAINTED YELLOW.</p>



LOG OF BORING LC-MW-05D

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/7/02
End Date : 11/8/02
Start Time : 1030
Weather : Overcast, Rainy

Drilling Company : Cascade Drilling Inc.
Drillers : Todd Mecham
: Rowan Miller
: David Gose

Depth in	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
<p>Well: LC-MW-05D Elev.: 306.34</p>	<p>DARK YELLOWISH-BROWN SILTY CLAY AND CLAYEY SILT. VERY TIGHT.</p> <p>SAME WITH SOME FINE TO MEDIUM GRAVEL ANGULAR TO ROUNDED UP TO 1/2" NO GRAVEL, SAME OTHERWISE.</p> <p>BROWN SLIGHTLY CLAYEY SILT.</p> <p>THIN DARKER BROWN LAYER.</p> <p>FINE TO MEDIUM GRAVELLY BROWN SILT.</p> <p>FINE TO MEDIUM GRAVELLY BROWN SILT, GRADING TO OLIVE BROWN SILTY FINE TO MEDIUM PULVERIZED GRAVEL. POSSIBLE TOP OF TROUTDALE.</p> <p>DARK GRAYISH-BROWN SILTY GRAVEL/GRAVELLY SILT. GRAVEL IS PULVERIZED.</p> <p>DARK GRAYISH-BROWN TO GRAY PULVERIZED GRAVEL.</p> <p>RED CLAY ON BOTTOM OF BIT</p> <p>BOTTOM OF HOLE 63.5'</p>	<p>40 BLOWS/ FT NO LONGER RUNNING WATER. SOIL IS MOIST.</p> <p>33 BLOWS/FT</p> <p>UP TO 60 BLOWS/ FT.</p> <p>FAINTLY MOIST</p> <p>CASING PULLED TO 49' WAIT OVERNIGHT. 11/8/02 0745 START DRILLING. WATER AT 52'.</p>	<p>Bore Hole Depth : 63.5' Bore Diameter : 7"</p>



LOG OF BORING LC-MW-06S

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/16/02
End Date : 11/16/02
Start Time : 1515
Weather : Overcast, Passing, Rain

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
: Jesse Cannon
: Matt Slobig

Depth in	Well: LC-MW-06s Elev.: 305.43	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		RED BROWN LOAMY SILT, LOTS OF ROOTS, SOME DECOMPOSED GRAVEL	LC-MW-06S-0 1515 MOIST	Bore Hole Depth : 37' Bore Diameter : 6"
		PALE BROWN SILT WITH DECOMPOSED GRAVEL, RUST COLORED MOTTLES	LC-MW-06S-2 1525 DRY	WELL LOCATION: NORTH SIDE OF DA-3 CRATER.
		RETURNS ARE FAINTLY MOIST, RED BROWN SILT WITH DECOMPOSED GRAVEL AND ROOTS	LC-MW-06S-5 1530	DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND 140 LBS HAMMER BIT.
5				SAMPLES TAKEN WITH SPLIT SPOON SAMPLED AT 0', 2', 5', DEPTHS SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE, AND METALS.
10				COULD NOT COLLECT 15' SAMPLE BECAUSE OF SATURATED CONDITIONS
15			VERY MOIST NOT WET	WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PV
20				HEIGHT OF CASING ABOVE GROUND 2.84'
25		BOTTOM OF HOLE 15'	WET AT 15'	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.



LOG OF BORING LC-MW-08S

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

Geologist : Mary Grez
Start Date : 11/16/02
End Date : 11/16/02
Start Time : 0740
Weather : Overcast

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
: Jesse Cannon
: Matt Slobig

Depth in	Well: LC-MW-08S Elev.: 306.10	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0	CONCRETE	BROWN SILTY LOAM LOTS OF ROOTS, SOME GRAVEL.	LC-MW-08S-0 0740 MOIST	Bore Hole Depth : 37' Bore Diameter : 6"
5		DRY SILTY GRAVEL, GRAYISH-BROWN DRY SILT WITH RUST COLORED MOTTLES	LC-MW-08S-2 0750 HAD TO MOVE 1' EAST BECAUSE OF ROOT	WELL LOCATION: SOUTH SIDE OF DA-3 CRATER.
10	GROUT RISER	REDDISH-BROWN CLAYEY SILT WITH DECOMPOSED GRAVEL AND RED MOTTLES	LC-MW-08S-5 0800 FAINTLY MOIST	DRILLING METHOD: CME 580 WITH 6" HOLLOW STEM AUGER AND 140 LBS HAMMER.
15		STIFF GRAY SILT, BARELY MOIST	LC-MW-08S-15 0815	SAMPLES TAKEN WITH SPLIT SPOON SAMPLER AT 0', 2', 5', 15' DEPTHS. SAMPLED FOR EXPLOSIVES, PETN, PERCHLORATE AND METALS
20	SAND 20-40	OLIVE-BROWN STIFF SILT AT 17'	POOR RECOVERY DROVE ANOTHER SAMPLE TO COMPOSITE FROM 15'-18'	WELL INNER DIAMETER: 2 INCH WELL SLOT SIZE: 0.010 INCH WELL SCREEN MATERIAL: PVC
25	SAND 2-12	MOIST REDDISH-BROWN SILT WITH VARIABLE CLAY AND FINE GRAVEL	NEVER ENCOUNTERED WET ZONE WE SAW IN LC-MW-05S	HEIGHT OF CASING ABOVE GROUND 3.68'
30	SCREEN			MONUMENT NO. AHA-373
35				NO WATER LEVELS TAKEN PRIOR TO SAMPLING BECAUSE OF SEDIMENT IN WELL.
40		BOTTOM OF HOLE 37'		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

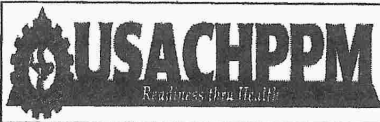
(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/15/02
End Date : 11/15/02
Start Time : 0737
Weather : Foggy

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
: Jesse Cannon
: Matt Slobig

Depth in	Well: LC-MW-09S Elev.: 344.91	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		DARK REDDISH-BROWN SLIGHTLY GRAVELLY, SLIGHTLY CLAYEY SILT	MOIST	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.
5		CHATTER AT 5' GRAVEL LAYER	WET AT 5'	
		A LITTLE MORE GRAVEL		
		COLOR STARTING TO CHANGE TO DARK GRAYISH-BROWN		
17.5		BOTTOM OF HOLE 17.5'		



LOG OF BORING LC-MW-10S

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/14/02
End Date : 11/14/02
Start Time : 1530
Weather : Sunny, Partly Cloudy

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
Jesse Cannon
Matt Slobig

Depth in	Well: LC-MW-10S Elev.: 349.67	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		DARK YELLOWISH-BROWN SLIGHTLY CLAYEY SILT- NO GRAVEL	MOIST, PLASTIC	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.
5			MORE MOIST	
10				
15		GRAYISH-BROWN TO DARK REDDISH-BROWN OR MAROON SLIGHTLY FINE GRAVELY SILT.	NO RETURN FROM 14' WATER AT 14'	
20				
25		BOTTOM OF HOLE 24.25'		



LOG OF BORING LC-MW-11S

(Page 1 of 1)

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

Geologist : Mary Grez
Start Date : 11/14/02
End Date : 11/14/02
Start Time : 1430
Weather : Sunny, Partly Cloudy

Drilling Company : Cascade Drilling Inc.
Drillers : Matt Ross
: Matt Slobig
: Jesse Cannon

Depth in	Well: LC-MW-11S Elev.: 342.72	DESCRIPTION	REMARKS	BORING AND WELL CONSTRUCTION INFORMATION
0		DARK YELLOWISH-BROWN SILT, SOME GRAVEL, POSSIBLE FILL MATERIAL	WATER AT GROUND SURFACE	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.
5		GRAYISH-BROWN SLIGHTLY FINE SANDY SILT CAN HEAR SOME GRAVEL IN HOLE	CHATTER AT 10'	
10				
15				
20				
25				
		BOTTOM OF HOLE 17'	WATER IN BOTTOM OF HOLE	

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

Key to Log of Borings

Sheet 1 of 1

Elevation feet	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
		split spoon sample		12-15-18	100%	CLAY (CL)					
						Silty CLAY - Clayey SILT (CL-ML)					
						Silty CLAY (CL)					
						Sandy silty CLAY (CL)					
						Sandy gravelly CLAY (CL)					
						Clayey gravelly SAND (SP)					
					50%	Gravelly silty SAND (SP)					
		rock core				Andesite (Bedrock)					

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

- 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.
- 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.

Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW03A
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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	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				

Report: ENV_23A; Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CE_L4.GPJ; Data Template: WC_CORP1.GDT Printed: 11/26/01

Elevation, feet (MSL)	Depth, feet	SAMPLES				MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
0						Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity					UXO avoidance to 8' bgs
510	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 level 28.50' bgs (6/5/01 1410)
30											

URS

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

Log of Boring L4-MW03A

Sheet 2 of 2

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

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



Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW04A Sheet 1 of 2
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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
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				

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

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
0	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					Rig down for repairs 0900 - 1130
490	20						same as above - weathered sand grains; mottled orange with black lenses	0	0	0830		
485	25		25-20-6	100			same as above - medium stiff; trace of yellow gravel	0	0	1155		
480	30											

URS

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

Report: ENV. Project File: I:\PROJECTS\WCF5-A-1\BONNEL-1\DELIVE-1\UOHNR1-1\BORING-1\CB_L4.GPJ; Data T :WC_CORP1.GDT Printed: 11/26/01

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
475	38			6-5-6	100		Sandy silty CLAY (CL) - very moist; highly weathered sand grains; yellow; red; black		0	0	1207	Depth to groundwater approx. 33' bgs on 6/4/01 1345 Groundwater encountered at approx. 41' bgs on 6/4/01 1313
				20-13-16	100				0	0	1220	
	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	
				14-30-33	100				0	0	1313	
465	45			14-56/6"	50		weathered andesite fragments, hard		0	0		
				20-50/4"	25				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											



Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW05A
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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	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				

Report: ENV_23A; Project File: I:\PROJECTS\WCF5-A-1\BONNELL-1\DELIVE-1\UOHNR1-1\BORING-1\CB_L4.GPJ; Data Template: WC_CORP1.GDT Printed: 11/26/01

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
0							Silty CLAY - Clayey SILT (CL-ML); moist; reddish-brown; low to medium plasticity		0	0	0940	UXO avoidance to 8' bgs
505	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	30											Depth to ground water 28.3' bgs on 6/6/01 1130

URS

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				MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
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											

Report: EN
 Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB-L4.GPJ; Data
 a:WC_CORP1.GDT Printed: 11/26/01



Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW06A Sheet 1 of 1
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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
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					MATERIAL DESCRIPTION	Well Completion Log	Water/Soil Sheen Test	Soil - UV Fluorescence	PID Readings (ppm)	REMARKS
		Type	Number	Time 24-hr clock	Dye test	Graphic Log						
0						Surface vegetation					No odor or evidence of contamination	
1						Brown silty CLAY (CL-ML) - dense, moist, some to trace yellow sub-rounded to rounded gravel, gravel size is 0.125" median diameter						
2												
3			0930			Same as above with trace black, weathered, angular bedrock (andesite) fragments						
4												
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						
7												
8												
9												
10												

Report: ENV_23A; Project File: E:\PROJECTS\BONNEL-1\DELIVE-1\BORING-1\CE_L4.GPJ; Data Template\WC_CORP1.GDT Printed: 10/30/02



Project: Landfill 4/Demolition Area 1	Log of Boring L4-SB07A
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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	Screen Perforation	NA
Type of Sand Pack	NA	Type of Well Casing	NA		
		Type/Thickness of Seal(s)	NA		
Comments	Soil boring abandoned and backfilled with bentonite chips. Boring coordinates: Northing: 140745.21 Easting: 1154417.20				

Report: ENV_1A; Project File: E:\PROJECTS\BONNEL-1\JOHNRI-1\BORING-1\CB_L4.GPJ; Data Template: WC_CORP1.GDT Printed: 1/16/03

Elevation feet	Depth, feet	SAMPLES				MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
		Type	Number	Blows/foot	Headspace (ppm)				
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				MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
		Type	Number	Blows/foot	Headspace (ppm)				
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								

Report: ENV_1A; Project: File: E:\PROJECTS\BONNEL-1\DELIVE-1\OHNR1-1\BORING-1\CB_L4.GPJ; Data Template: MC_CORP-1.GDT Printed: 1/16/03

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	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				

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

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



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				MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
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 4 ⁵ -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 from 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 @ 9 RPM
70											

Report: ENV_23A; Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\UOHNR1-1\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-MW01B

Sheet 3 of 3

Elevation, feet (MSL)	Depth, feet	SAMPLES				MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
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											

Report: EW
 Project File: \\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB_L4.GPJ, Data
 X:\WC_CORP1.GDT Printed: 11/26/01



Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW02B
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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	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				MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery						
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	
505	10					Rock - aphanitic; mica, hornblende, crystalline carbonate, possible boulder		0	0	1512	rock obstruction 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
495	20					same as above		0	0	1627	resume drilling 6/20/01
490	25					same as above - trace of yellow gravel		0	0		centralizer at 19' bgs
	30							0	0	1654	

Report: ENV_23A; Project File: I:\PROJECTS\WCF5-A-1\BONNEL-1\DELIVE-1\JOHNRI-1\BORING-1\CB_L4.GPJ; Data Template: WC_CORP1.GDT Printed: 11/26/01



Report: ENV Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\UOHNFI-1\BORING-1\CB_L4.GPJ; Data JWC_CORP1.GDT Printed: 11/28/01

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

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time: 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
445	70					[Pattern]	[Pattern]	0	0	0938		
440	75		Run #1		40%	[Pattern]	[Pattern]	0	0	1240	[Pattern]	[Pattern]
435	80		Run #2		0%	[Pattern]	[Pattern]	0	0	1320	[Pattern]	[Pattern]
430	85							0	0	1446	[Pattern]	[Pattern]
425	90											
420	95											
415	100											
410	105											
110												

Report: ENV_23A; Project File: I:\PROJECTS\WCFS-A-1\BONNEL-1\DELIVE-1\UOHINR1-1\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	<h2 style="margin: 0;">Log of Boring L4-MW03B</h2> <p style="margin: 0;">Sheet 1 of 2</p>
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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	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				

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

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Boring Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
0	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	centralizer at 7' bgs
500	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	30						same as above - some sand, some gravel		0	0	1450	Depth to groundwater 27' bgs 6/26/01 0755 centralizer at 27' bgs
475	35											

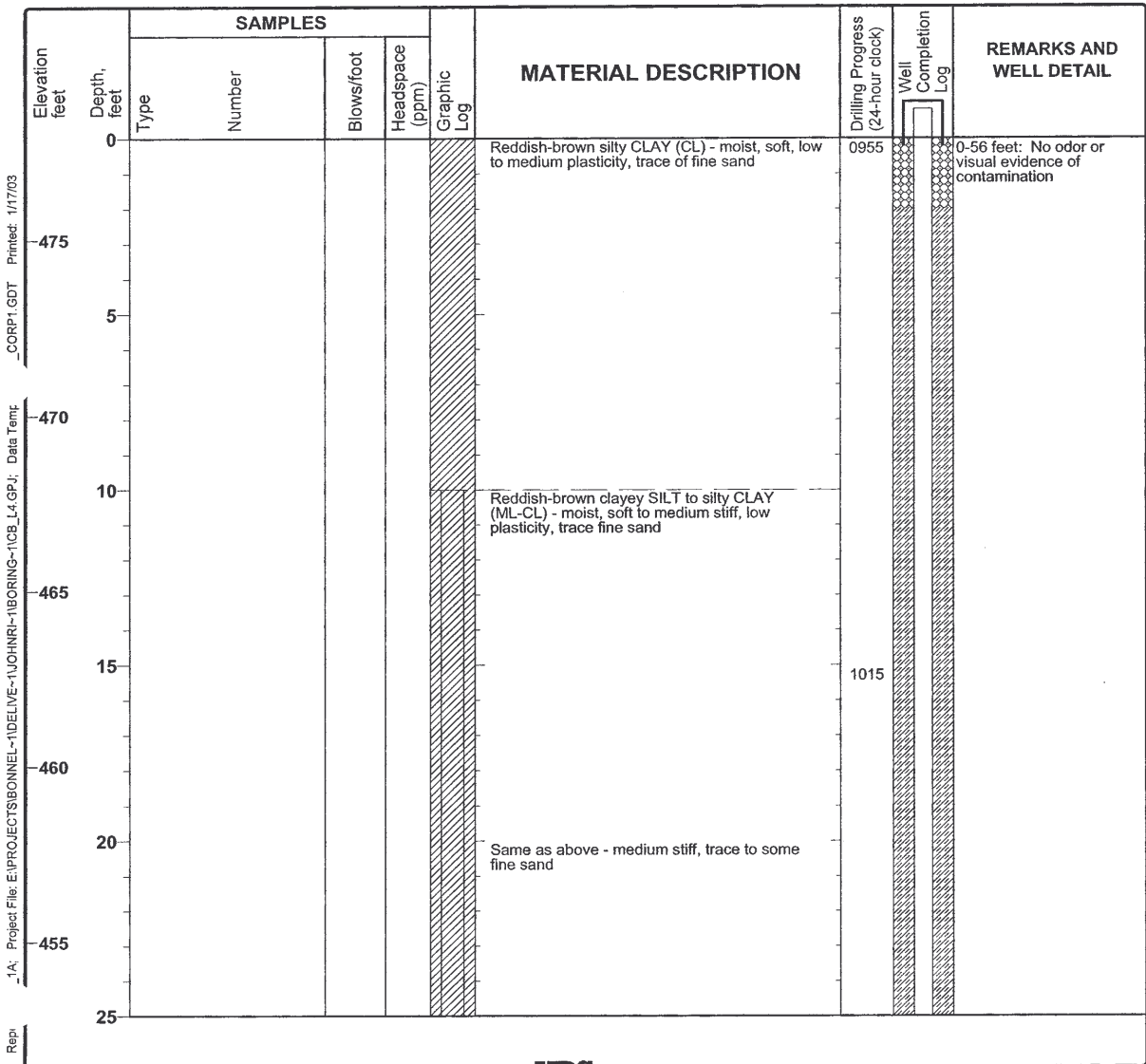


Report: ENV_23A; Project File: I:\PROJECTS\WCPFA-1\BONNELL-1\DELIVE-1\UOHNR1-1\BORING-1\CB_L4.GPJ; Data Template: WC_CORP1.GDT Printed: 11/25/01

Elevation, feet (MSL)	Depth, feet	SAMPLES				Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID (ppm)	Headspace PID (ppm)	Drilling Rate (Time, 24-hour clock)	REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery							
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		0	0		Bottom of Run #1; 93% Recovery; 100% RQD
440							healed fracture; crystalline carbonate infilling					
70												Bottom of Run #2; 100% Recovery; 100% RQD
435							Boring terminated at 70' bgs on 6/26/01 at 1416					
75												
430												
80												

Project: Landfill 4/Demolition Area 1	Log of Boring L4-MW07B Sheet 1 of 2
Project Location: Camp Bonneville, WA	
Project Number: 53-F0072323.00	

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
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				



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 _1A: Project File: E:\PROJECTS\BONNEL-1\DELIVE-1\UOHNR1-1\BORING-1\CB_L4.GPJ; Data Temp
 _CORP1.GDT Printed: 1/17/03

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

Report: ENV_1A; Project File: E:\PROJECTS\BONNEL-1\DELIVE-1\BORING-1\CB_L4.GPJ; Data Template: WC_CORP1.GDT; Printed: 1/17/03

Elevation feet	Depth, feet	SAMPLES				MATERIAL DESCRIPTION	Drilling Progress (24-hour clock)	Well Completion Log	REMARKS AND WELL DETAIL
		Type	Number	Blows/foot	Headspace (ppm)				
25						Same as above			
450	30					Same as above - Grayish-brown, trace fine yellow gravel			
445	35						1100		
440	40					Same as above - Trace yellow fine gravel, trace black angular rock fragments			39.32' Static groundw. level measured on 12/20/02 at 0800 Groundwater encountered at approximately 40 feet bgs on 12/19/02 at 1110
435	45					Apparent top of weathered bedrock unit	1140		
430	50					Medium grey to black ANDESITE - finely granular, porphyritic, mostly plagioclase, some noticeable amounts of hornblende and biotite occurring as phenocrysts, quartz nodules			
425	55								
420						Soil boring terminated at 56.4 feet bgs at 1150 on 12/19/02			



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

Bore Hole/Well Construction Log

Project Number:
16978.004

Boring/Well Number:
L4-MW17

Sheet
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

Depth (feet, BCS)	Well Construction Details	Sample Data				Lithologic Column	Soil Description
		Sample Interval	PID Reading (ppm)	Sample Number	Blows/ft.		
1	STEEL COVER						0-5': Brown, sandy SILT with gravel and trace cobbles. Slightly moist, firm.
2							
3	BENTONITE SEAL 1' TO 4'						
4	2" SCH. 40 PVC BLANK						
5							
6							5'-15': Gray BASALT. Moderately to slightly weathered, hard.
7							
8							
9							Becomes unweathered at 9 feet.
10	10-20 SILICA SAND						▼ Groundwater at 10.06' on 6-14-04.
11							
12	2" SCH. 40 PVC SCREEN 0.01" SLOT						
13							
14							
15							
16							BOTTOM OF BORING AT 15' Well finished with aboveground steel pipe monument set in concrete pad.
17							
18							
19							
20							

NOTES

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

MW-17

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

Bore Hole/Well Construction Log

Project Number:
 16978.004

Boring/Well Number:
 L4-MW18

Sheet
 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

Depth (feet, BCS)	Well Construction Details	Sample Data			Lithologic Column	Soil Description
		Sample Interval	RIP Reading (ppm)	Sample Number		
0-1	STEEL COVER					0-5': Brown, sandy SILT with gravel and trace cobbles. Slightly moist to moist, medium stiff.
1-2	SLIP CAP CONCRETE 0' TO 1' STEEL COLLAR					
2-3	BENTONITE SEAL 1' TO 8'					Some clay at 3' depth.
3.5-5'		3.5-5'		S-1	13	3'-15.5': Gray SILT with sand. Slightly moist, stiff. Decomposed basalt with remnant rock texture to 8' depth.
8-9	2" SCH. 40 PVC BLANK					Grades to mottled brown-gray-tan, sandy SILT with clay at 8' depth. Highly weathered basalt.
10-11.5'	10-20 SILICA SAND	10-11.5'		S-2	29	Wet at 11'. ▼ Groundwater at 11.34' on 6-14-04.
12-13	2" SCH. 40 PVC SCREEN 0.01" SLOT					
15.5'-16'						15.5'-16': Gray clayey SILT with trace sand. Wet, medium stiff to hard.
16'-18.5'		17-18.5'		S-3	50 for 6"	16'-20': Dark green to gray, clayey SAND. Wet, hard. Highly weathered to decomposed basalt.
20						BOTTOM OF BORING AT 20' Well finished with aboveground steel pipe monument set in concrete pad.

8/5/04 11:48 P:\6000\16978.004 - 2nd cfr 2004\16978.004_Monitoring_Wells_2nd_Quarter_2004.dwg
 REV.

NOTES

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

MW-18

APPENDIX D

Previous Quarterly Groundwater Monitoring Report Tables
by PBS Engineering + Environmental
(on enclosed CD)