

# **Closure Report**

sound environmental strategies



# Property:

Former Port Orchard Bulk Plant and Cardlock

134 Bay Street West Port Orchard, Washington

#### Prepared for:

Nordic Properties, Inc. P.O. Box 84 Port Orchard, Washington 98366

October 4, 2010

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SES Project No.: 0644-001

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October 4, 2010



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#### **ACRONYMS AND ABBREVIATIONS**

AST aboveground storage tank

bgs below ground surface

BTEX benzene, toluene, ethylbenzene, and total xylenes

COCs chemicals of concern

DRPH diesel-range petroleum hydrocarbons

Ecology Washington State Department of Ecology

EPA United States Environmental Protection Agency

Farallon Farallon Consulting, LLC

GRPH gasoline-range petroleum hydrocarbons
MTCA Washington State Model Toxics Control Act

NWTPH Northwest Total Petroleum Hydrocarbon

ORPH oil-range petroleum hydrocarbons

PCS petroleum-contaminated soil

the Property 134 Bay Street West, Port Orchard, Washington

ROW right-of-way

SES Sound Environmental Strategies

the Site defined by the full lateral and vertical extent of

contamination that resulted from the historical operation of a bulk fuel storage facility on the Property.

TPH total petroleum hydrocarbons
UST underground storage tank
VCP Voluntary Cleanup Program

WAC Washington Administrative code

#### 1.0 INTRODUCTION

Sound Environmental Strategies (SES) has prepared this Closure Report to document the results of the cleanup action conducted between September 2007 and December 2009 at the Former Port Orchard Bulk Plant and Cardlock property located at 134 Bay Street West, Port Orchard, Washington (herein referred to as the Property) (Figure 1). The Closure Report has been prepared on behalf of current Property owner, Nordic Properties, Inc. As established in Section 200 Chapter 173-340 of the Washington Administrative Code (WAC 173-340), the "Site" is defined by the full lateral and vertical extent of contamination that resulted from the historical operation of a bulk fuel storage facility on the Property. The results of prior subsurface investigations and interim remedial actions conducted at the Site indicate that concentrations of the chemicals of concern (COCs), including gasoline-range petroleum hydrocarbons (GRPH), diesel-range petroleum hydrocarbons (DRPH), and benzene, toluene, ethylbenzene and total xylenes (BTEX), were released to the subsurface as a result of the operation of the former bulk fuel storage facility on the Property.

The cleanup action at the Site was conducted in accordance with the Washington State Model Toxics Control Act (MTCA) Regulation as an independent remedial action under the Washington State Department of Ecology's (Ecology's) Voluntary Cleanup Program No. NW1306. The Closure Report includes a brief description of the Property background, summarizes the components and results of the cleanup action at the Site, and provides conclusions.

#### 1.1 PURPOSE

The purpose of the cleanup action was to protect human health and the environment and to restore beneficial uses of soil and groundwater at the points of compliance to meet the requirements for a No Further Action determination from Ecology for the Site. According to the *Cleanup Action Work Plan*, prepared by Farallon Consulting, LLC (Farallon), dated September 22, 2004, the point of compliance for soil is defined as all soil within the Site boundary where analytical results of in situ soil samples have detected concentrations of one or more of the COCs above the MTCA Method A cleanup levels for soil. The point of compliance for groundwater is defined as the Property boundary (Farallon 2004).

In a letter to Ecology dated October 30, 2006, Farallon proposed using monitoring wells MW-3, MW-4, MW-7 and MW-15 as conditional points of compliance for groundwater at the Site, as per WAC 173-340-720[8][c] (Farallon 2006b). Monitoring well MW-7 was damaged and, therefore, no longer viable for sampling. As of September 2005, groundwater samples collected from monitoring wells MW-3, MW-4, and MW-15 had achieved four consecutive quarters with concentrations of the COCs below the applicable MTCA Method A cleanup levels. Monitoring well MW-16 is located downgradient to concentrations of total petroleum hydrocarbon left in place near the southern boundary of Excavation #1, and is upgradient of the proposed conditional points of compliance monitoring wells MW-3, MW-7, and MW-15 (Farallon 2006b). In addition, groundwater samples collected from monitoring well MW-16 had concentrations of benzene exceeding the MTCA Method A cleanup level. Based on this information, monitoring well MW-16 was selected as the point of compliance for groundwater at the Site.

#### 1.2 PROPERTY DESCRIPTION AND BACKGROUND

The Property is located within Kitsap County, Washington, in Township 24 North, Range 1 East, Section 26 and includes portions of tax parcels 4623-000-008-0001, 4623-000-005-0004, 4623-

000-004-0500, and 262401-3-029-2008 (Figure 2). The portions of tax parcels 4623-000-004-0500 and 4623-000-005-0004 that extend north of the State Route 166 right-of-way (ROW) are not included as part of the Site.

The Wilkins Distributing Bulk Plant and Cardlock historically operated on the Property by Wilkins Distributing Company/Nordic Properties from the 1940s through 1992, and by Gull Industries, Inc. as the Port Orchard Bulk Plant and Cardlock from December 15, 1993 to November 15, 2003 (Farallon 2006a). The Property is currently vacant and gravel-covered. The former bulk fuel storage facility on the Property used aboveground storage tanks (ASTs) and underground storage tanks (USTs) for the storage and distribution of gasoline and diesel fuel (Figure 2). Eight ASTs were installed between 1965 and 1989 on the western portion of the Property and removed in early 2004 (Farallon 2006a).

The Property is bordered to the north by the State Route 166 ROW, and beyond tideland and Sinclair Inlet; to the south by wooded land; to the west by Wilkins Drive and beyond a commercial parcel; and to the east by Wilkins Place Southwest, and beyond wooded land. The portions of tax parcels 4623-000-004-0500 and 4623-000-005-0004 extend north of State Route 166.

#### 1.3 BACKGROUND

An interim remedial action was conducted at the Site in September and October 2004, which consisted of the removal of 10 USTs; removal and disposal of 5,593 tons of soil containing concentrations of the COCs exceeding the MTCA Method A cleanup levels from two separate excavation areas (Excavation #1 and Excavation #2); and groundwater monitoring to evaluate the effect of source removal on groundwater quality. Analytical results for Excavation #1 indicated six confirmation soil samples (E1-101304-01, E1-101304-02, E1-101304-04, E1-101304-11, E1-102104-04, and E1-111104-01) contained concentrations of DRPH, GRPH, and one or more BTEX constituent in exceedance of the MTCA Method A cleanup levels (Table 1). Analytical results for Excavation #2 indicated two confirmation soil samples (E2102504-04 and E2-102504-06) contained concentrations of DRPH, GRPH, and/or benzene in exceedance of the MTCA Method A cleanup levels (Table 1). The location of these soil samples include portions of the northern, southern, and western borders of Excavation #1, with the northern extent being within the State Route 166 ROW and the western extent being within Wilkins Drive. and on the northern border of Excavation #2 (Figure 3). These areas were not further excavated due to the presence of subsurface utilities and/or the Property boundary. As of January of 2008 the City of Port Orchard exchanged the land identified as the utility easement on Figure 2, for the Nordic Properties Inc. land identified as Wilkins Drive (Figure 2). Nordic Properties Inc. has indemnified the City of Port Orchard against all potential environmental liabilities associated with Wilkins Drive. Additional background details are described in the Cleanup Action Work Plan, dated September 22, 2004, and the Cleanup Action Status Report, dated February 22, 2006, both prepared by Farallon, and are not reiterated herein.

#### 1.4 ORGANIZATION

This report describes the cleanup action activities, and presents the results and conclusions of the cleanup action conducted by SES at the Site. This report is organized into the following sections:

 Section 2—Cleanup Action. This section provides a description of the components of the cleanup action.

• **Section 3—Cleanup Action Results.** This section summarizes the results of the cleanup action.

- **Section 4—Conclusions.** This section summarizes SES' conclusions pertaining to the environmental conditions at the Site based on the results of the cleanup action.
- Section 5—References. This section identifies the documents cited in this report.
- **Section 6—Limitations.** This section presents the limitations associated with the preparation of this report.

#### 2.0 CLEANUP ACTION

The following subsections describe the field activities conducted to meet the objectives of the cleanup action. The cleanup action was conducted in several phases between September 2007 and December 2009, and included the following activities: conducting two separate chemical injections events into push-probe borings and injection wells; excavation of the remainder of a historic gasoline pipe which connected former Excavations #1 and #2; collecting additional confirmation soil samples; and conducting nine groundwater monitoring events. The components of the cleanup action included the following:

- Preparing a health and safety plan in accordance with MTCA and Part 1910.120 of Title 29 of the Code of Federal Regulations prior to initiating field activities;
- Performing a utility locate at the proposed boring locations using a private utility location service, as well as contacting the One-Call Center for utility location;
- Registering with Ecology's Underground Injection Control Program prior to chemical injection;
- Advancing a total of 13 direct-push borings (P1 through P13) for use as injection points at several different areas across the Site;
- Advancing three injection wells (IW-17 through IW-19), with the use of a vactor-truck, for use as injection points at the water line running west-east, south of Excavation #1;
- Excavating a former product pipe which extended from Excavation #1 to Excavation #2;
- Collecting additional confirmation soil samples for laboratory analysis from direct-push borings advanced near the western and southern boundaries of Excavation #1;
- Conducting nine groundwater monitoring events at monitoring well MW-16 on a generally quarterly basis between September 2007 and December 2009;
- Submitting groundwater samples for laboratory analysis; and
- Preparing this report.

The components of the cleanup action are discussed in detail in the following subsections.

#### 2.1 IN SITU CHEMICAL OXIDATION

Prior to conducting the chemical injection events, the Property was registered with Ecology's Underground Injection Control Program as number 30155.

The first injection event was conducted in September 2007, and included performing chemical injection at direct-push borings P1 through P13, as well as monitoring well MW-16. The second injection event was conducted in October 2007, and included performing chemical injection at injection wells IW-17 through IW-19. Prior to the commencement of drilling, public and private utility locate surveys were conducted at the Site. Drilling services for the advancement of the

borings and wells at the Site were provided by Cascade Drilling of Woodinville, Washington, with the use of either a direct-push drill rig or a vactor truck.

Sodium persulfate and hydrogen peroxide were used as the oxidation chemicals for the injections. Hydrogen peroxide activates the persulfate, and the sulfate radical catalyzes the hydrogen peroxide to create some hydroxyl radicals. These radical compounds are the oxidation force that reacts with organic compounds such as GRPH and BTEX. The radicals attack the carbon-carbon bond of the contaminant, breaking the molecule apart. Hydroxyl radicals have an oxidation potential (breaking force) of 2.8 electron volts. Between 2 and 2.5 electron volts are required to break the carbon-carbon chemical bonds of the GRPH aliphatic (single bond) and aromatic (one and a half bond) compounds at the Site. Each batch of the injectant solution was composed of 100 gallons of water, 55 gallons of 5% hydrogen peroxide and 55 pounds of sodium persulfate, and was injected by directly pouring the solution into each probe/well. Copies of the Material Safety Data Sheets for hydrogen peroxide and sodium persulfate are provided in Appendix A.

#### 2.1.1 September 2007 Injection Event

The first injection event was conducted at the Site in September 2007. A total of thirteen direct-push probes (P1 through P13) were advanced with the use of a direct-push drill rig. The borings were placed at various locations where residual concentrations of DRPH, GRPH and/or one or more BTEX constituent remained after the September 2004 through January 2006 cleanup action activities (Farallon 2006). Borings P1 through P3 were advanced north, east, and south of monitoring well MW-16, adjacent to the location of confirmation sample E1-101304-04; borings P4 through P6 were advanced near the southwest border of Excavation #1, adjacent to the location of confirmation sample E1-101304-11; borings P7 through P9 were advanced along the west border of Excavation #1, adjacent to the location of confirmation sample E1-102104-04; and borings P10 through P13 were advanced along the stormwater drain line which runs west-east within the State Route 166 ROW, adjacent to the location of confirmation sample E1-111104-01 (Figure 3). Borings P1 through P13 extended to a depth of approximately 9 feet below ground surface (bgs). In addition, monitoring well MW-16 was used as an injection point (Figure 3).

Temporary wells for each boring were constructed of 1-inch-diameter blank polyvinyl chloride casing, flush-threaded to 5 feet of 0.010-inch slotted well screen, fitted with a threaded polyvinyl chloride bottom cap. No soil samples were obtained during boring advancement.

The first injection event consisted of injecting a total of five batches into borings P1 through P13, and two batches into monitoring well MW-16. The volume injected into each boring or well was based on what the formation would accept. A total of approximately 1,100 gallons of the solution was injected into borings P1 through P13 and monitoring well MW16 during the September 2007 injection event. After completion of the chemical injection, the temporary screen was removed and each boring was backfilled with bentonite chips to surface grade.

#### 2.1.2 October 2007 Injection Event

The second injection event was conducted at the Site in October 2007. Three injection well borings (IW-17 through IW-19) were advanced with the use of a vactor truck. A vactor truck was used for well advancement due to the well boring locations placed

directly above a waterline which runs east to west, adjacent to the south of Excavation #1 (Figure 3). The injection well borings were spaced approximately 15 feet apart and advanced to a depth of approximately 10 feet bgs. The injection well borings were placed on the Site where residual concentrations of benzene remained after the September 2004 through January 2006 cleanup action activities (Farallon 2006). Confirmation soil samples previously collected from this area include E1-101304-01 and E1-01304-02 (Figure 3).

The injection wells were constructed of 4-inch-diameter blank polyvinyl chloride casing, flush-threaded to 6 feet of 0.010-inch slotted well screen. The bottom and top of each of the wells were fitted with a threaded polyvinyl chloride bottom cap and a locking compression fit well cap. The annulus of the injection wells was filled with #2/12 silica sand to a minimum height of 1 foot above the top of the screened interval. A bentonite seal having a minimum thickness of 1 foot was installed above the sand pack. The wells were completed at the surface with a flush-mounted, traffic-rated well box set in concrete. No soil samples were obtained during well installation.

The second injection event consisted of injecting a total of three batches into injection wells IW-17 through IW-19. The volume injected into each well was based on what the formation would accept. A total of approximately 500 gallons of the solution was injected into injection wells IW-17 through IW-19 during the October 2007 injection event. Injection wells IW-17 through IW-19 will be decommissioned in accordance with WAC 173-160-381 upon obtaining a No Further Action Determination for the Site from Ecology.

#### 2.2 PIPE EXCAVATION

The former gasoline product pipe was excavated on November 15, 2007, by Case Excavating of Port Orchard, Washington. The pipe was a remnant piece remaining between Excavations #1 and #2, and had previously been cut at the southern extent of Excavation #1 and the northern extent of Excavation #2. The pipe was removed because it was believed that the line was a major source of gasoline contamination in the old right of way. An approximate 4-foot-wide by 6-foot-deep trench was excavated along the path of the pipe which began approximately 10 feet south of monitoring well MW-16, and extended south under the former Wilkins Drive to the former AST area (Figure 4). The 3-inch-diameter steel pipe was located approximately 3 to 4 feet bgs. Sample E1-101304-04 was collected from directly beneath the product pipe in October 2004, during cleanup action activities at Excavation #1, and contained concentrations of DRPH, GRPH, benzene, ethylbenzene, and total xylenes in exceedance of the MTCA Method A cleanup levels (Figure 3, Table 1).

The trench was backfilled with imported fill material to surface grade. Approximately 20 tons of excavated soil was stockpiled on visqueen prior to disposal at Waste Management. The pipe was recycled as scrap steel.

#### 2.3 CONFIRMATION SOIL SAMPLING

On September 18, 2008, three direct-push borings were advanced near the western and southern boundaries of Excavation #1 (Figure 3). Drilling services for the advancement of the borings at the Site were provided by Cascade Drilling using a direct-push drill rig. The borings were placed in the vicinity of confirmation samples E1-101304-02, E1-101304-11, and E1-102104-04, which were collected in 2004 and contained concentrations of GRPH and/or benzene in exceedance of the MTCA Method A cleanup levels. The borings were sampled at

specific intervals so as to compare analytical results with the 2004 confirmation samples, after completion of chemical injection activities. The samples were collected using a 4-foot probe rod driven by 140-pounds-per-square-inch hydraulics powered by nitrogen gas. The sampler was lined with disposable acetate sleeves that were removed and opened to reveal the sample after each 4-foot sample interval driven.

A single confirmation soil sample was collected from each boring from a depth of 4 to 5 or 9 to 10 feet bgs. Samples were placed into iced coolers for transport to TestAmerica Inc. of Bothell, Washington, under standard chain-of-custody protocols for laboratory analysis. Three soil samples (New-Wilkins-Road-North, New-Wilkins-Road-South, and New-MW16-South) were submitted for analysis of GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx and BTEX by United States Environmental Protection Agency (EPA) Method 8021B.

#### 2.4 GROUNDWATER MONITORING

Groundwater monitoring and sampling events were conducted at monitoring well MW-16 in September and December 2007; March, June, and December 2008; and March, June, September, and December 2009.

Upon arrival at the Site for each sampling event, monitoring well MW-16 was opened to allow the water level to equilibrate with atmospheric pressure for a minimum of 15 minutes before obtaining the groundwater level measurement. The groundwater level was measured relative to the top of well casing to an accuracy of 0.01 feet using an electronic water level meter. Purging and sampling of the monitoring well was performed using a peristaltic pump and dedicated polyethylene tubing at a maximum flow rate of 300 milliliters per minute. The tubing intake was placed approximately 2 to 3 feet below the surface of the groundwater or mid-screen in the well. During purging, water quality was monitored using a HORIBA U-22 (or equivalent) water quality meter equipped with a flow-through cell. The water quality parameters that were monitored and recorded included temperature, pH, specific conductance, turbidity, dissolved oxygen, and oxidation-reduction potential.

Following purging, a groundwater sample was collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into clean, laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported to TestAmerica, under standard chain-of-custody protocols for laboratory analysis. Groundwater samples were submitted for analysis of GRPH by Method NWTPH-Gx and BTEX by EPA Method 8021B. Purge water generated during each monitoring event was placed in a 5-gallon bucket with a lid and transported to the Nordic Properties, Inc. parcel located at 400 Wilkes Avenue in Bremerton, Washington, and disposed of in the treatment system at that location.

#### 3.0 CLEANUP ACTION RESULTS

The following sections summarize the results of the cleanup action conducted at the Site between September 2007 and June 2009. Laboratory analytical reports for the soil and groundwater samples collected during the September cleanup action are included in Appendix B.

#### 3.1 **SOIL**

Analytical results for the three additional confirmation soil samples collected during the cleanup action indicated concentrations of the COCs were below the applicable MTCA Method A cleanup levels with the exception of GRPH and benzene in sample New-MW16-South (Figure 3, Table 1). Sample New-MW16-South was collected from between 4 to 5 feet bgs from the boring advanced adjacent to the 2004 sample #E1-101304-02, which contained concentrations of benzene exceeding the MTCA Method A cleanup level at 4 feet bgs.

#### 3.2 GROUNDWATER

Depth-to-groundwater measurements in monitoring well MW-16 between September 2007 and December 2009 ranged from 7.17 feet bgs (December 2008) to 7.88 feet bgs (December 2009). Groundwater contours from the last full round of depth-to-groundwater measurements, collected in September 2005, indicate a groundwater flow direction to the north-northwest (Figure 4). In addition, the groundwater flow direction at the Site has historically been towards the north-northwest (Farallon 2006a). Analytical results for groundwater samples collected from monitoring well MW-16 for the previous nine quarterly monitoring events indicated the following (Figure 5, Table 2):

- Concentrations of benzene exceeded the MTCA Method A cleanup level for the September and December 2007, and March and June 2008 monitoring events.
- Concentrations of benzene were below the MTCA Method A cleanup level for the December 2008 monitoring event and all four quarterly monitoring events conducted in 2009.
- Concentrations of GRPH, toluene, ethylbenzene, and total xylenes were below the MTCA Method A cleanup levels or the laboratory reporting limit for each of the nine monitoring events.

#### 4.0 CONCLUSIONS

The cleanup action at the Site was conducted in several phases between September 2007 and December 2009, and included conducting two chemical injections event; excavation of a historic gasoline pipe between Excavations #1 and #2; and conducting nine groundwater monitoring events.

Analytical results of soil samples collected during the cleanup action indicate residual soil contamination has been remediated in the following areas of the Site (Figure 3, Table 1):

- The western border of Excavation #1 New confirmation sample New-Wilkins-Road-North was collected in the vicinity of previous confirmation sample E1-102104-04, which contained concentrations of benzene in exceedance of the MTCA Method A cleanup level. Analytical results for the new confirmation sample indicated concentrations of benzene were below the laboratory reporting limit.
- The southwest border of Excavation #1 New confirmation sample New-Wilkins-Road-South was collected in the vicinity of previous confirmation sample E1-101304-11, which contained concentrations of GRPH and benzene in exceedance of the MTCA Method A cleanup levels. Analytical results for the new confirmation sample indicated concentrations of GRPH and benzene were below the MTCA Method A cleanup levels or the laboratory reporting limit.

• A portion of the southern border of Excavation #1 – The area in the vicinity of previous confirmation sample E1-101304-04, which contained concentrations of DRPH, GRPH, benzene, ethylbenzene, and total xylenes in exceedance of the MTCA Method A cleanup levels, was excavated to approximately 6 feet bgs during pipe excavation activities. In addition, this sample was adjacent to a chemical injection point (P3). These combined activities likely removed concentrations of the COCs in exceedance of the MTCA Method A cleanup levels.

• The northern border of Excavation #1 located within the Department of Transportation State Route 166 ROW – The previous confirmation soil sample E1-111104-01 collected within the State Route 166 ROW contained a concentration of benzene of 0.035 milligrams per kilogram, only slightly exceeding the MTCA Method A cleanup level. Four chemical injection points were placed in the vicinity of this soil sample for chemical injection, likely resulting in reducing benzene concentrations to below the MTCA Method A cleanup level in this area.

Areas where residual soil contamination remains at the Site include the following (Figure 3, Table 1):

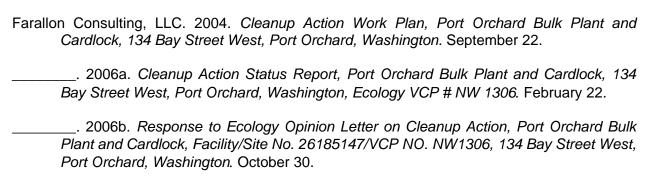
- A portion of the southern border of Excavation #1 The analytical results from new confirmation sample New-MW16-South, collected in the vicinity of previous confirmation samples E1-101304-01 and E1-101304-02, indicated concentrations of GRPH and benzene remain in exceedance of the MTCA Method A cleanup levels.
- The northern border of Excavation #2 The analytical results from previous confirmation samples E2-102504-04 and E2-102504 indicated concentrations of DRPH, GRPH, and/or benzene were present. No additional cleanup action activities were conducted in Excavation #2, therefore, concentrations of the COCs in exceedance of the MTCA Method A cleanup levels remain in this area.

Both of these areas are currently capped by asphalt pavement, therefore, there is no risk of exposure to humans or the environmental.

Analytical results for the point of compliance well MW-16 indicate concentrations of the COCs have been below the MTCA Method A cleanup levels for the past five consecutive quarters. Monitoring well MW-16 is located downgradient relative to the two remaining areas with concentrations of the COCs in soil in exceedance of the MTCA Method A cleanup levels, indicating the residual concentrations of DRPH, GRPH, and benzene are not leaching into groundwater.

Based upon these conclusions, SES requests that Ecology grant a No Further Action determination with a Restrictive Covenant for soil in the areas containing concentrations of DRPH, GRPH, and benzene in exceedance of the MTCA Method A cleanup levels. These areas include the area between soil samples E1-101304-01 and E1-101304-02, at the southern border of Excavation #1, and the area between soil samples E2-102504-04 and E2-102504 E1-101304-01 and E1-101304-02, at the northern border of Excavation #2. Both of these areas are contained within the Property boundary. The Restrictive Covenant will provide notification that, should soils be excavated in either of the affected areas, proper disposal protocol will be followed.

#### 5.0 REFERENCES

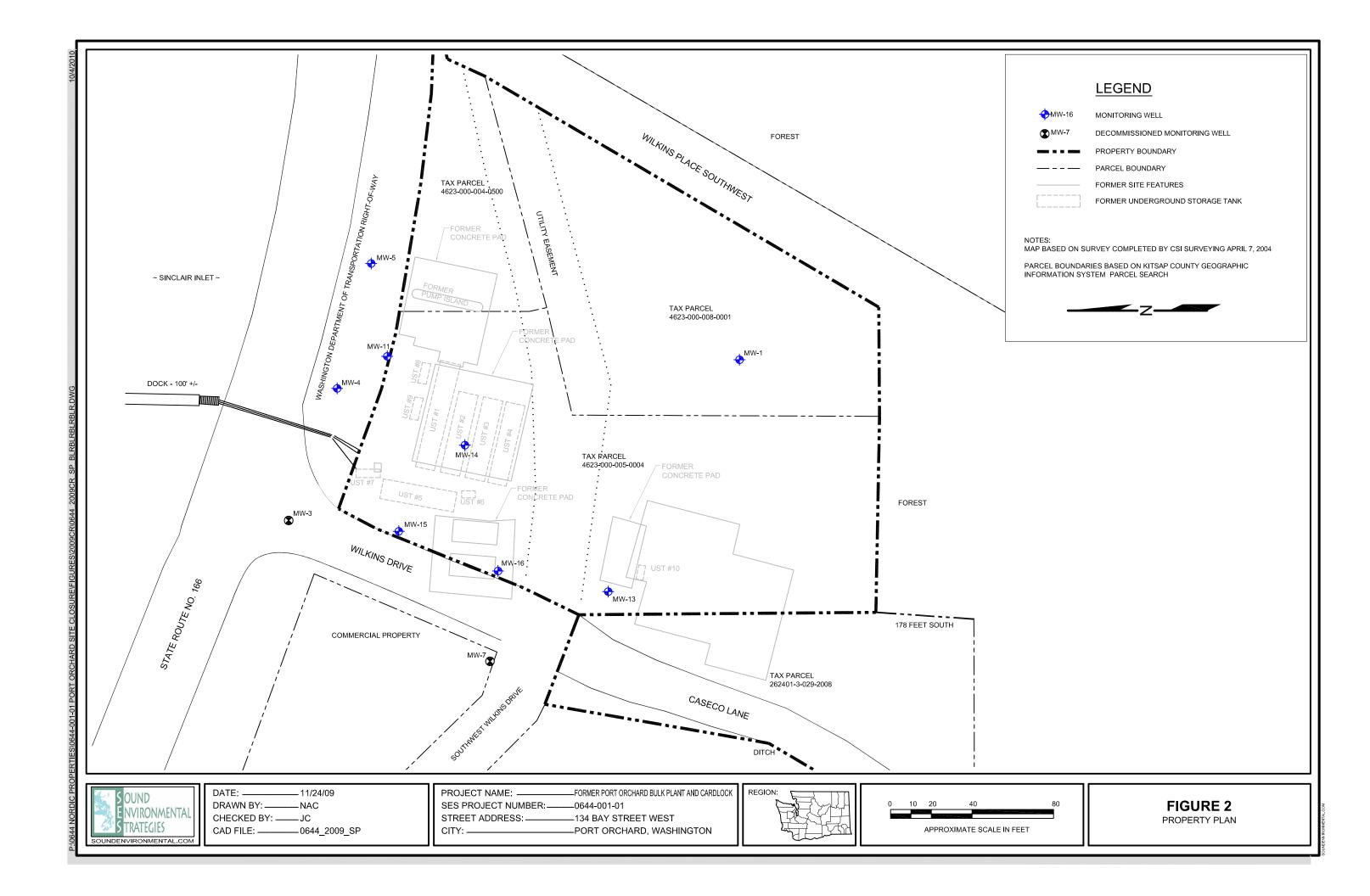


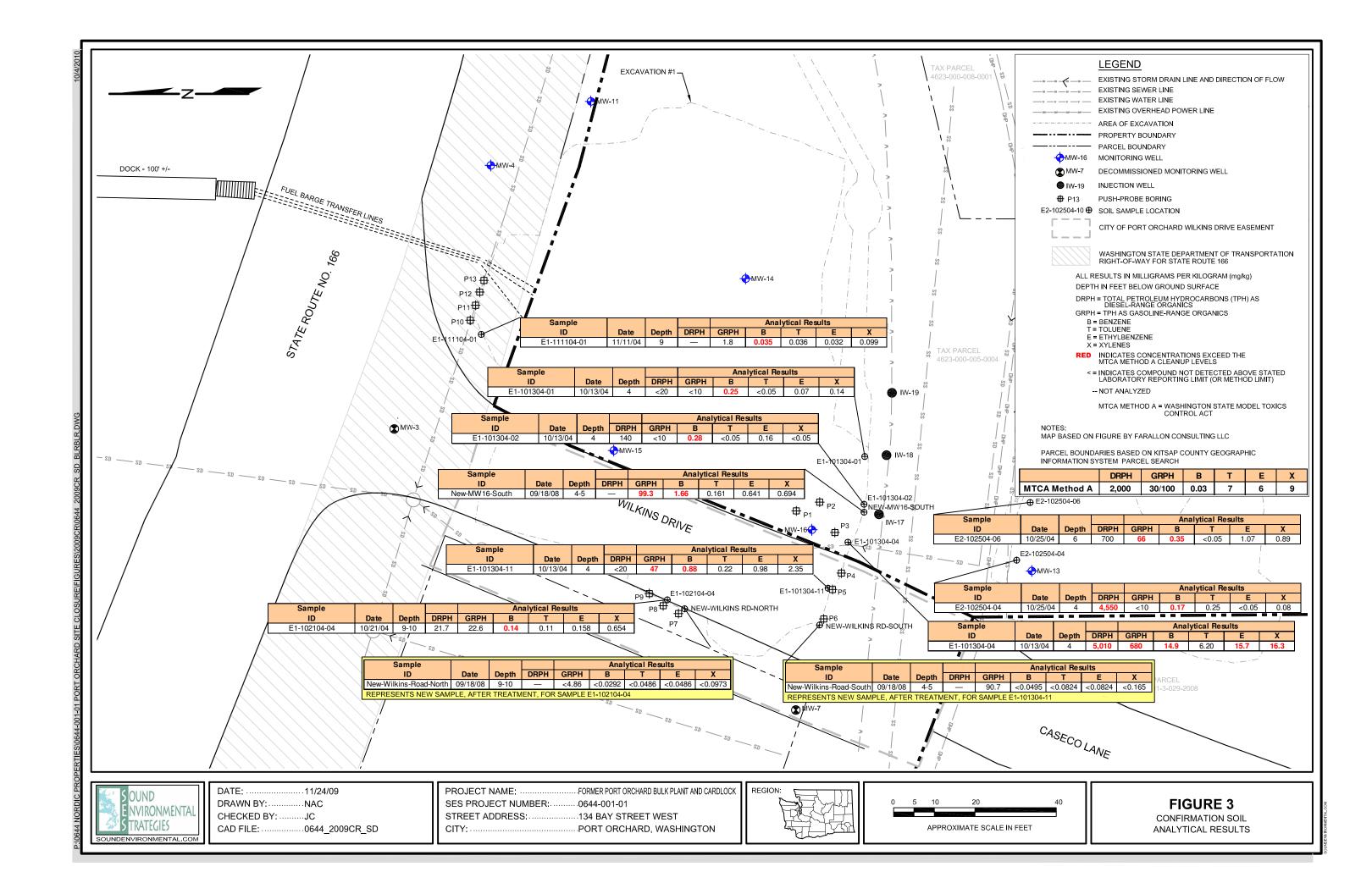
#### 6.0 LIMITATIONS

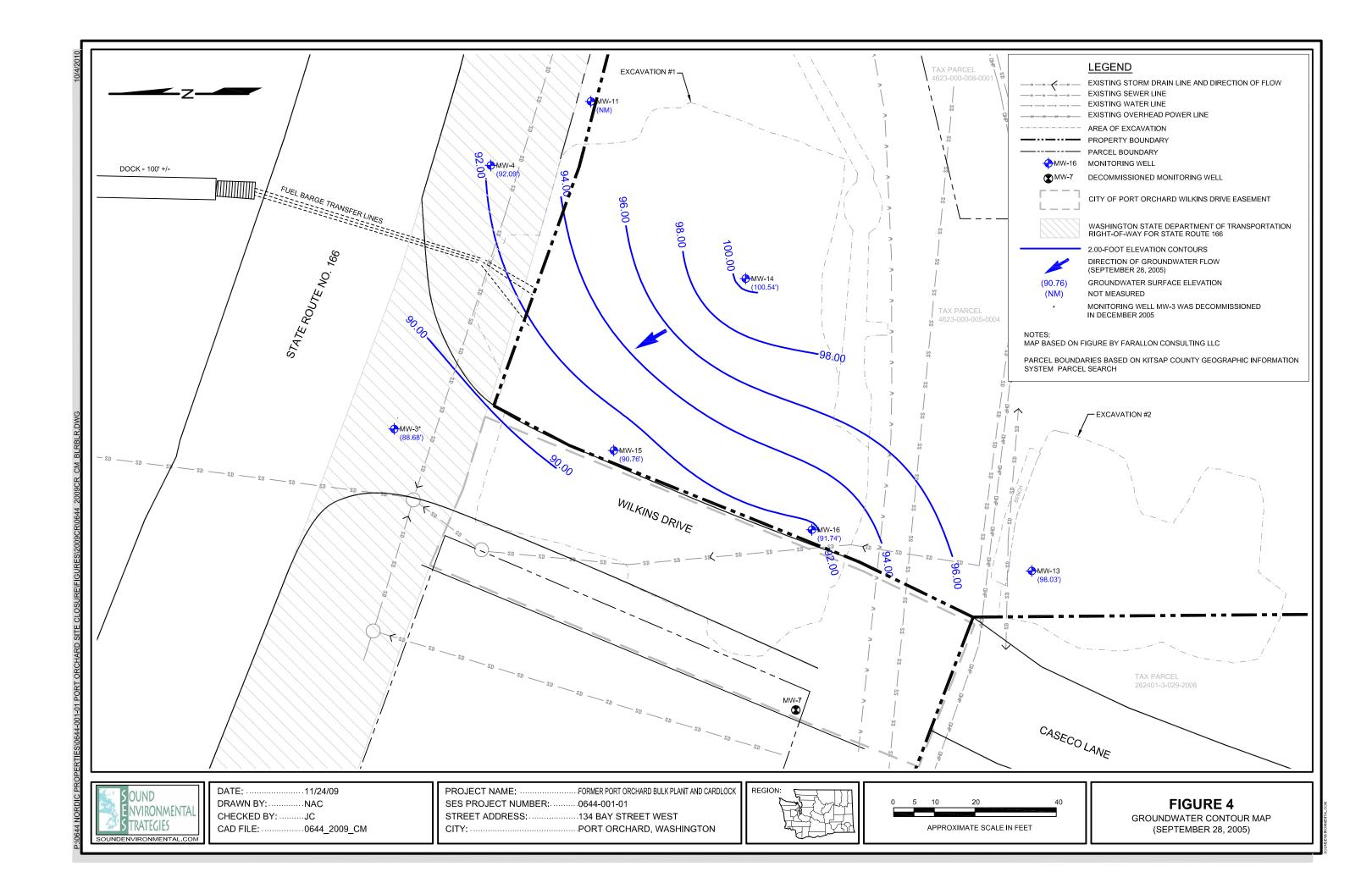
The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

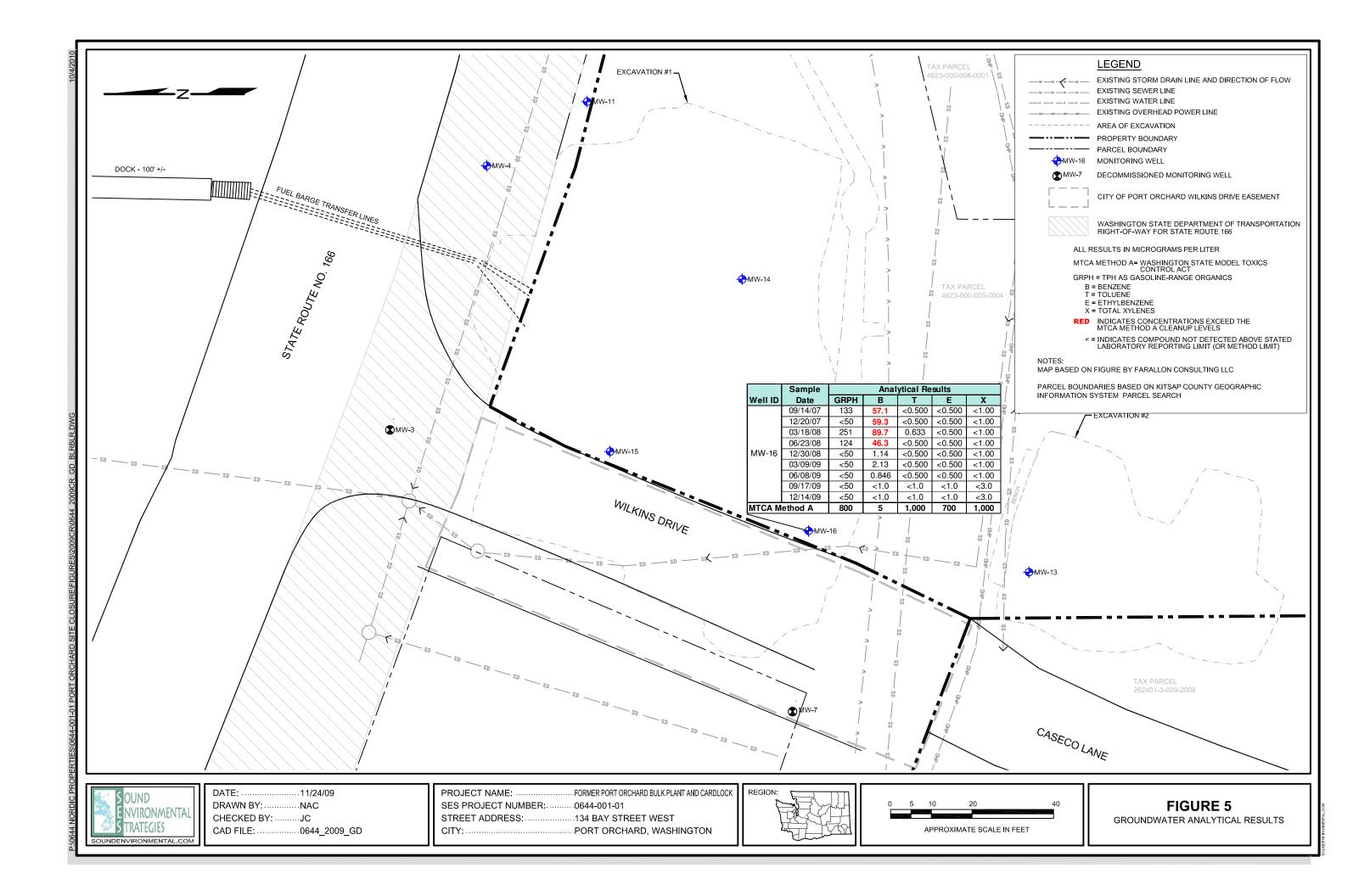
Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

# **FIGURES**









# **TABLES**



Sample		Sample	Depth			Analyti	cal Results (	(milligrams p	per kilogram)	
ID	Date	Type	(feet) <sup>1</sup>	DRPH <sup>2</sup>	ORPH <sup>2</sup>	GRPH <sup>3</sup>	Benzene⁴	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Xylenes <sup>4</sup>
Excavation 1										
E1-101104-01	10/11/04	BTM	12	<20	_	<10	<0.02	< 0.05	< 0.05	< 0.05
E1-101104-02	10/11/04	BTM	6	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101104-03	10/11/04	BTM	7-8	<20	_	<10	< 0.02	<0.05	<0.05	< 0.05
E1-101104-04	10/11/04	SD-E	7	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101104-05	10/11/04	BTM	12-13	<20	_	<10	<0.02	< 0.05	<0.05	< 0.05
E1-101104-05 Dup	10/11/04	LD	12-13	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101104-06	10/11/04	BTM	12-13	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101104-07	10/11/04	SD-E	8-9	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101104-08	10/11/04	SD-NE	7-8	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101104-09	10/11/04	BTM	9	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101204-01	10/12/04	SD-S	8-9	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101204-02	10/12/04	SD-S	8-9	1,010	_	<10	<0.02	<0.05	<0.05	< 0.05
E1-101204-03	10/12/04	SD-N	9	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101204-04	10/12/04	BTM	12	<20	_	<10	< 0.02	<0.05	<0.05	<0.05
E1-101204-04 Dup	10/12/04	LD	12	<20	_	<10	< 0.02	< 0.05	<0.05	< 0.05
E1-101204-05	10/12/04	SD-S	8-9	<20	_	<10	< 0.02	< 0.05	< 0.05	< 0.05
E1-101204-06	10/12/04	BTM	12	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101204-07	10/12/04	BTM	12	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101204-08	10/12/04	BTM	12	<20	_	<10	< 0.02	< 0.05	< 0.05	< 0.05
E1-101204-09	10/12/04	SD-N	9	<20	_	<10	0.036	0.07	<0.05	0.30
E1-101204-09 Dup	10/12/04	LD	12		_	<10	0.042	< 0.05	< 0.05	0.31
E1-101204-11	10/12/04	FD	12	<20	_	12	0.060	0.10	0.06	0.50
E1-101204-10	10/12/04	BTM	12	<20	_	<10	<0.02	< 0.05	<0.05	<0.05
E1-101304-01	10/13/04	SD-S	4	<20	_	<10	0.25	< 0.05	0.07	0.14
E1-101304-02	10/13/04	SD-S	4	140	_	<10	0.28	< 0.05	0.16	< 0.05
E1-101304-03	10/13/04	FD	4	260	_	46	1.24	< 0.05	1.39	0.83
E1-101304-04	10/13/04	SD-S	4	5,010	_	680	14.9	6.20	15.7	16.3
E1-101304-05	10/13/04	BTM	6	<20	_	<10	0.084	< 0.05	< 0.05	< 0.05
E1-101304-06	10/13/04	BTM	8-9	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101304-06 Dup	10/13/04	BTM	8-9	<20	_	<10	< 0.02	< 0.05	< 0.05	< 0.05
E1-101304-07	10/13/04	PCS	5	560	_	21	0.70	<0.05	0.69	1.02
E1-101304-08	10/13/04	BTM	6	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101304-09	10/13/04	SD-S	5	<20		<10	0.14	<0.05	<0.05	<0.05
E1-101304-10	10/13/04	FD	5	22		<10	<0.02	<0.05	<0.05	<0.05
E1-101304-11	10/13/04	SD-S	4	<20		47	0.88	0.22	0.98	2.35
MTCA Method A Cleanup	Levels for Soil	5		2,000	2,000	30/100 <sup>a</sup>	0.03	7	6	9



Sample		Sample	Depth			Analyti	cal Results (	(milligrams p	per kilogram)	
ID	Date	Type	(feet) <sup>1</sup>	DRPH <sup>2</sup>	ORPH <sup>2</sup>	GRPH <sup>3</sup>	Benzene⁴	Toluene⁴	Ethylbenzene <sup>4</sup>	Xylenes <sup>4</sup>
Excavation 1										
E1-101304-12	10/13/04	PERF	6	990	_	145	2.91	6.44	31.1	48.5
E1-101404-01	10/14/04	BTM	8	<20		<10	0.32	0.09	0.07	0.35
E1-101404-01 Dup	10/14/04	LD	8	<20	_	<10	0.29	0.07	0.07	0.25
E1-101404-02	10/14/04	BTM	8	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101404-03	10/14/04	BTM	8-9	<20	_	<10	<0.02	<0.05	< 0.05	< 0.05
E1-101404-04	10/14/04	BTM	8	<20		<10	0.031	< 0.05	<0.05	<0.05
E1-101404-05	10/14/04	SD-E	8	<10	<25	1.39	<0.0164	0.0514	0.0103	0.0403
E1-101404-06	10/14/04	SD-S	8-9	17.5	<25	0.921	<0.0160	0.0161	0.000637	0.0249
E1-101404-07	10/14/04	BTM	12-13	<10	<25	1.59	<0.0190	0.0193	0.0109	0.038
E1-101404-08	10/14/04	BTM	9	<10	<25	5.18	<0.0161	0.012	<0.00536	0.15
E1-101404-09	10/14/04	BTM	9-10	<20		<10	0.23	<0.05	<0.05	0.07
E1-101404-10	10/14/04	SD-NE	8-9	<20	_	<10	0.061	<0.05	<0.05	0.12
E1-101404-11	10/14/04	SD-NE	9	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101404-12	10/14/04	втм	12	<20	_	<10	<0.02	<0.05	<0.05	< 0.05
E1-101504-01	10/15/04	SD-N	9	<20		<10	<0.02	< 0.05	<0.05	<0.05
E1-101504-02	10/15/04	втм	12	<20	_	<10	0.026	< 0.05	<0.05	<0.05
E1-101504-02 Dup	10/15/04	LD	12	<20		<10	0.027	<0.05	<0.05	<0.05
E1-101504-03	10/15/04	втм	12	<20	———	<10	<0.02	< 0.05	<0.05	<0.05
E1-101504-04	10/15/04	втм	12-13	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101504-05	10/15/04	втм	11-12	<20		<10	0.13	< 0.05	<0.05	0.05
E1-101504-06	10/15/04	SD-N	9-10	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101504-07	10/15/04	SD-N	9	<20		1,150	0.44	4.44	48.8	194
E1-101504-08	10/15/04	BKFL-OB	4	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101504-09	10/15/04	FD	4	<20	_	<10	<0.02	< 0.05	<0.05	<0.05
E1-101504-10	10/15/04	BKFL-OB	4	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101504-11	10/15/04	BKFL-IMP	N/A	<20		<10	<0.02	< 0.05	<0.05	<0.05
E1-101504-12	10/15/04	BKFL-IMP	N/A	<20		<10	<0.02	< 0.05	<0.05	<0.05
E1-101504-12 Dup	10/15/04	LD	N/A	<20	_	_	_	_	_	
E1-101504-13	10/15/04	SD-N	5	<20		<10	<0.02	<0.05	<0.05	<0.05
E1-101804-01	10/18/04	BTM	11	<20		<10	0.042	< 0.05	<0.05	< 0.05
E1-101804-01 Dup	10/18/04	LD	11	<20		<10	0.033	<0.05	<0.05	<0.05
E1-101804-02	10/18/04	BTM	12-13	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101804-03	10/18/04	SD-W	8	180	_	38	0.55	0.08	0.35	0.45
E1-101804-04	10/18/04	BTM	12-13	<20	<u> </u>	<10	<0.02	<0.05	<0.05	<0.05
E1-101804-05	10/18/04	SD-W	10	2,900	_	<10	0.31	< 0.05	<0.05	0.06
E1-101904-01	10/19/04	BTM	11-12	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-101904-01 Dup	10/19/04	LD	11-12	<20		<10	<0.02	<0.05	<0.05	< 0.05
E1-101904-02	10/19/04	SD-W	9-10	<20	_	<10	0.028	0.06	<0.05	0.11
MTCA Method A Cleanup				2,000	2,000	30/100 <sup>a</sup>	0.03	7	6	9



Sample		Sample	Depth			Analyti	cal Results (	(milligrams p	per kilogram)	
ID	Date	Туре	(feet) <sup>1</sup>	DRPH <sup>2</sup>	ORPH <sup>2</sup>	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene <sup>4</sup>	Xylenes <sup>4</sup>
Excavation 1										
E1-101904-03	10/19/04	BTM	12	<20	_	<10	<0.02	< 0.05	<0.05	< 0.05
E1-101904-04	10/19/04	SD-W	9	<20	_	<10	0.18	<0.05	<0.05	0.13
E1-101904-05	10/19/04	BTM	4	<20	_	<10	< 0.02	< 0.05	<0.05	< 0.05
E1-101904-06	10/19/04	FD	4	<20		<10	< 0.02	< 0.05	<0.05	< 0.05
E1-102004-01	10/20/04	TP	4	<20	_	<10	< 0.02	< 0.05	< 0.05	< 0.05
E1-102004-01 Dup	10/20/04	LD	4	<20	_	<10	< 0.02	< 0.05	< 0.05	< 0.05
E1-102004-02	10/20/04	TP	3-4	<20	_	<10	<0.02	< 0.05	<0.05	< 0.05
E1-102004-03	10/20/04	TP	6	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102004-04	10/20/04	BTM	12	<20		<10	0.021	<0.05	<0.05	<0.05
E1-102004-06	10/20/04	BTM	12	<20	_	<10	0.022	<0.05	<0.05	<0.05
E1-102104-01	10/21/04	SDW	9-10	<20		18	<0.02	<0.05	0.11	0.89
E1-102104-02	10/21/04	SD-W	9-10	<20	_	20	0.024	0.05	0.08	0.39
E1-102104-03	10/21/04	SD-W	9-10	420	_	350	2.77	12.9	13.9	55.1
E1-102104-04	10/21/04	SD-W	9-10	21.7	77.1	22.6	0.14	0.11	0.158	0.654
E1-102104-05	10/21/04	BTM	13-14	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102104-06	10/21/04	SD-N	11	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102104-07	10/21/04	FD	11	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102104-08	10/21/04	SD-N	8-9	<20	870	28	1.22	0.07	<0.05	0.13
E1-102104-10	10/21/04	SD-N	8	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102104-10 Dup	10/21/04	LD	8	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E1-102204-01	10/22/04	SD-NW	8	<20		22	0.021	<0.05	0.10	0.32
E1-102204-02	10/22/04	SD-SW	8	<20	_	<10	<0.02	< 0.05	<0.05	< 0.05
E1-102604-01	10/26/04	BTM	4	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E1-102604-02	10/26/04	TP	4	<20	<40	<10	<0.02	< 0.05	<0.05	< 0.05
E1-111004-01	11/10/04	SD-S	5-6	_	_	1.9	<0.0138	0.021	0.01	0.045
E1-111004-02	11/10/04	SD-S	3-4	_		1.7	< 0.0147	0.016	0.008	0.029
E1-111104-01	11/11/04	SD-N	9	_		1.8	0.035	0.036	0.032	0.099
E1-111104-02	11/11/04	BTM	13	_	_	1.2	< 0.0160	0.012	0.007	<0.195
E1-111104-03	11/11/04	SD-N	11-12	_		28.4	<0.0166	0.112	0.153	0.453
E1-111204-01	11/11/04	SN-N	5-6	_	_	1.8	<0.0177	0.020	0.012	0.045
				Exca	vation 2					
E2-102004-01	10/20/04	TP	5-6	<20	_	<10	<0.02	< 0.05	<0.05	< 0.05
E2-102004-02	10/20/04	TP	8	<20	_	<10	<0.02	<0.05	<0.05	< 0.05
E2-102004-03	10/20/04	TP	2-3	3,600		<10	<0.02	0.09	<0.05	0.53
E2-102004-04	10/20/04	FD	2-3	2,900	_	<10	<0.02	0.22	<0.05	1.14
E2-102004-05	10/20/04	TP	4	<20	_	<10	<0.02	<0.05	<0.05	<0.05
E2-102004-06	10/20/04	TP	4	<20		<10	<0.02	<0.05	<0.05	<0.05
E2-102004-06 Dup	10/20/04	LD	4	<20		<10	<0.02	<0.05	<0.05	<0.05
MTCA Method A Cleanup	Levels for Soil	5	·	2,000	2.000	30/100 <sup>a</sup>	0.03	7	6	9



Sample		Sample	Depth			Analyti	cal Results (	(milligrams p	per kilogram)	
ID	Date	Type	(feet) <sup>1</sup>	DRPH <sup>2</sup>	ORPH <sup>2</sup>	GRPH <sup>3</sup>	Benzene⁴	Toluene⁴	Ethylbenzene⁴	Xylenes <sup>4</sup>
Excavation 2										
E2-102004-07	10/20/04	TP	3	<20	_	<10	<0.02	< 0.05	< 0.05	< 0.05
E2-102004-08	10/20/04	TP	4	<20		<10	<0.02	<0.05	<0.05	<0.05
E2-102004-09	10/20/04	TP	4	<20		<10	<0.02	< 0.05	<0.05	0.05
E2-102004-10	10/20/04	TP	3	430	_	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-01	10/22/04	BTM	5-6	<20	<40	<10	0.024	< 0.05	<0.05	< 0.05
E2-102204-02	10/22/04	SD-W	4-5	6,230	<40	<10	0.27	<0.05	<0.05	<0.05
E2-102204-03	10/22/04	PCS	3	3,420	<40	<10	0.041	0.042	<0.05	0.62
E2-102204-04	10/22/04	PCS	4	2,850	<40	<10	0.30	0.11	<0.05	0.22
E2-102204-04 Dup	10/22/04	LD	4	2,560	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-05	10/22/04	SD-E	4	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-06	10/22/04	ВТМ	5	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-07	10/22/04	SD-W	4	4,480	<40	<10	0.45	<0.05	<0.05	0.98
E2-102204-08	10/22/04	BTM	5-6	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-09	10/22/04	BTM	5-6	<20	<40	<10	<0.02	<0.05	<0.05	< 0.05
E2-102204-10	10/22/04	SD-W	4	850	<40	<10	0.026	<0.05	<0.05	0.31
E2-102204-11	10/22/04	BTM	5	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102204-11 Dup	10/22/04	LD	5	<20	<40	_				
E2-102504-01	10/25/04	SD-W	5	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102504-01`Dup	10/25/04	LD	5	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102504-02	10/25/04	FD	5	<20	<40	<10	<0.02	< 0.05	<0.05	<0.05
E2-102504-03	10/25/04	SD-S	4	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102504-04	10/25/04	SD-N	4	4,550	<40	<10	0.17	0.25	<0.05	0.08
E2-102504-05	10/25/04	SD-N	3	680	<40	<10	<0.02	<0.05	0.09	0.23
E2-102504-06	10/25/04	SD-N	3	700	<40	66	0.35	< 0.05	1.07	0.89
E2-102504-07	10/25/04	SD-W	5	420	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102504-08	10/25/04	BTM	5-6	<20	<40	<10	<0.02	< 0.05	<0.05	< 0.05
E2-102504-09	10/25/04	SD-S	4-5	<20	<40	<10	<0.02	< 0.05	<0.05	<0.05
E2-102504-010	10/25/04	SD-E	4	<20	<40	<10	<0.02	< 0.05	<0.05	< 0.05
E2-102604-01	10/26/04	SD-N	3	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102604-01 Dup	10/26/04	LD	3	<20	<40	<10	<0.02	< 0.05	<0.05	<0.05
E2-102604-02	10/26/04	SD-E	3-4	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102604-03	10/26/04	BTM	4	<20	<40	<10	<0.02	<0.05	<0.05	<0.05
E2-102604-04	10/26/04	FD	4	<20	<40	<10	<0.02	< 0.05	<0.05	<0.05
E2-102604-05	10/26/04	SD-N	4	<20	<40	<10	<0.02	<0.05	<0.05	< 0.05
E2-102604-06	10/26/04	SD-N	4	<20	<40	<10	<0.02	< 0.05	<0.05	<0.05
E2-102704-01	10/27/04	BTM	5	10.2	30.4	1.37	<0.0169	0.0242	0.00948	0.0349
E2-102704-04	10/27/04	SD-E	4	<10.0	<25.0	1.59	<0.016	0.022	0.00961	0.0345
E2-102704-05	10/27/04	SD-N	4	30.2	45.7	10.8	0.0226	0.0372	0.0597	0.192
ITCA Method A Cleanup			•	2.000	2.000	30/100 <sup>a</sup>	0.03	7	6	9



# Table 1 Summary of Soil Analytical Results

#### Former Port Orchard Bulk Plant and Cardlock Port Orchard, Washington

Sample		Sample	Depth			Analyti	cal Results (	milligrams p	er kilogram)	
ID	Date	Туре	(feet) <sup>1</sup>	DRPH <sup>2</sup>	ORPH <sup>2</sup>	GRPH <sup>3</sup>	Benzene <sup>4</sup>	Toluene <sup>4</sup>	Ethylbenzene⁴	Xylenes <sup>4</sup>
	Soil Borings									
New-Wilkins-Road-North	09/18/08	Boring	9-10	_	_	<4.86	< 0.0292	<0.0486	<0.0486	< 0.0973
New-Wilkins-Road-South	09/18/08	Boring	4-5	_	_	90.7	<0.0495	<0.0824	<0.0824	<0.165
New-MW16-South	09/18/08	Boring	4-5	_	ı	99.3	1.66	0.161	0.641	0.694
MTCA Method A Cleanup Levels for Soil <sup>5</sup>					2,000	30/100 <sup>a</sup>	0.03	7	6	9

#### NOTES:

Red denotes concentration exceeds MTCA Method A cleanup levels for groundwater.

Samples analyzed by TestAmerica Laboratories, Inc. of Bothell, Washington. Data collected prior to 09/18/08 provided by previous consultants.

<sup>1</sup>Depth collected in feet below ground surface.

<sup>2</sup>Analyzed by Method NWTPH-Dx.

<sup>3</sup>Analyzed by Method NWTPH-Gx.

<sup>4</sup>Analyzed by United States Environmental Protection Agency Method 8021B.

<sup>5</sup>MTCA Method A Cleanup Levels, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

<sup>a</sup>The cleanup level for GRPH is 30 mg/kg when benzene is present and 100 mg/kg when benzene is not present.

- = not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

BKFL-IMP = Sample of imported backfill soil

BKFL-OB = Sample of overburden soil used as excavation backfill

BTM = Excavation bottom confirmation sample DRPH = diesel-range petroleum hydrocarbons

FD = Field duplicate sample

GRPH = gasoline-range petroleum hydrocarbons

LD = Laboratory selected sample duplicate analysis of preceeding sample

mg/kg - milligrams per kilogram

MTCA = Washington State Model Toxics Control Act Cleanup Regulation

N/A = not applicable

NWTPH

ORPH = oil-range petroleum hydrocarbons

PERF = performance sample

SD-X = Excavation sidewall confirmation sample with ordinal sidewall designation (N,S,E,W)

TP = Test pit excavation sample



			Depth to	Groundwater		Analy	tical Results	(microgram	s per Liter)	
	Sample	Sample	Groundwater <sup>1</sup>	Elevation <sup>2</sup>						Total
Well ID	Identification	Date	(feet)	(feet)	DRPH <sup>3</sup>	GRPH⁴	Benzene <sup>5</sup>	Toluene <sup>5</sup>	Ethylbenzene <sup>5</sup>	Xylenes <sup>5</sup>
MW-1	MW1-011305	01/13/05		103.34+	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 103.34	_	03/25/05	Artesian	103.34+	_	_	_	_	_	_
		06/23/05		103.34+	_	_	_	_	_	
MW-3	MW3-011305	01/13/05	11.65	89.35	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 101	MW3-032505	03/25/05	11.90	89.10	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW3-062305	06/23/05	11.74	89.26	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW3-092805	09/28/05	12.32	88.68	<250	<100	<1.0	<1.0	<1.0	<3.0
				Decommis	sioned on 1	2/12/2005.				
MW-4	MW4-011305	01/13/05	8.90	92.48	<250	<50	0.635	0.726	0.641	1.89
TOC: 101.38	MW4-032505	03/25/05	8.92	92.46	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW4-062305	06/23/05	9.34	92.04	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW4-092805	09/28/05	9.29	92.09	<250	<100	<1.0	<1.0	<1.0	<3.0
MW-5	MW5-011305	01/13/05		100.43+	<250	<50	<0.5	<0.5	<0.5	<1
TOC: 100.43	_	03/25/05	Artesian	100.43+	_	_	_	_	_	_
	_	06/23/05		100.43+	_	_	_	_	_	_
MW-7	MW7-011305	01/13/05	5.80	93.70	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 99.5	_	03/25/05				Paved	Over	I		L
MW-11	MW 11-011305	01/13/05	7.32	94.38	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 101.7	_	03/25/05	7.38	94.32		_	_	_	_	
	_	06/23/05	7.30	94.40		_	_	_		_
MW-13	MW 13-011305	01/13/05	1.49	98.61	296	<50	0.868	<0.5	<0.5	<1.0
TOC: 100.1	MW 13-032505	03/25/05	1.83	98.27	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW 13-062305	06/23/05	2.00	98.10	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW 13-092805	09/28/05	2.07	98.03	<250	<100	<1.0	<1.0	<1.0	<3.0
MW-14	MW 14-011305	01/13/05		100.84+	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 100.84	MW 14-032505	03/25/05	Artesian	100.84+	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW 14-062305	06/23/05		100.84+	<250	<50	<0.5	<0.5	<0.5	<1.0
	MW 14-092805	09/28/05	0.30	100.54	<250	<100	<1.0	<1.0	<1.0	<3.0
MW-15	MW 15-011305	01/13/05	9.33	90.64	<250	<50	<0.5	<0.5	<0.5	<1.0
TOC: 99.97	MW 15-032505	03/25/05	9.10	90.87	<250	<50	<0.5	1.18	<0.5	1.77
	MW 15-062305	06/23/05	9.09	90.88	<250	<50	<0.5	<0.5	<0.5	<1
	MW 15-092805	09/28/05	9.21	90.76	<250	<100	<1.0	<1.0	<1.0	<3.0
MW-16	MW 16-011305	01/13/05	7.64	91.70	<250	<50	0.621	<0.5	<0.5	<1.0
TOC: 99.34	MW 16-032505	03/25/05	7.51	91.83	<250	59.3	21.2	<0.5	<0.5	<1.0
	MW 16-062305	06/23/05	7.53	91.81	<250	175	61.6	<0.5	0.546	<1
	MW 16-092805	09/28/05	7.60	91.74	<250	<100	10	<1.0	<1.0	<3.0
	MW 16-091407	09/14/07	7.55	91.79		133	57.1	<0.500	<0.500	<1.00
	MW16-20071220	12/20/07	7.49	91.85		<50	59.3	<0.500	<0.500	<1.00
	MW16-20080318	03/18/08	_	_	_	251	89.7	0.633	<0.500	<1.00
,	MW16-20080623	06/23/08	7.25	92.09	_	124	46.3	<0.500	<0.500	<1.00
	MW16-20081230	12/30/08	7.17	92.17	_	<50	1.14	<0.500	<0.500	<1.00
,	MW16-20090309	03/09/09	7.49	91.85		<50	2.13	<0.500	<0.500	<1.00
	MW16-20090608	06/08/09	7.69	91.65		<50	0.846	<0.500	<0.500	<1.00
,	MW16-20090917	09/17/09	7.86	91.48	_	<50	<1.0	<1.0	<1.0	<3.0
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								
	MW16-20091214	12/14/09	7.88	91.46	_	<50	<1.0	<1.0	<1.0	<3.0

#### NOTES:

Red denotes concentrations exceeding MTCA Method A Cleanup Levels for Groundwater.

Samples analyzed by TestAmerica Laboratories, Inc. of Bothell, Washington or Friedman & Bruya, Inc. of Seattle, Washington. Data collected prior to 09/19/05 provided by previous consultants.

--- = not analyzed/not measured

<= not detected at a concentration exceeding the laboratory reporting limit Artesian = Groundwater level observed above top of well casing

DRPH = diesel-range petroeum hydrocarbons

GRPH = gasoline-range petroleum hydrocarbons

MTCA = Model Toxics Control Act

NWTPH = Northwest Total Petroleum Hydrocarbons

TOC = top of casing elevation (feet)

<sup>&</sup>lt;sup>1</sup>Measured in feet below a fixed spot on the well casing rim.

<sup>&</sup>lt;sup>2</sup>Elevations relative to a temporary benchmark with an assumed elevation of 100.00 feet.

<sup>&</sup>lt;sup>3</sup>Analyzed by Method NWTPH-Dx.

<sup>&</sup>lt;sup>4</sup>Analyzed by Method NWTPH-Gx.

<sup>&</sup>lt;sup>5</sup>Analyzed by United States Environmental Protection Agency Method 8021B.

<sup>&</sup>lt;sup>6</sup>MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

# **APPENDIX A**

Sodium Persulfate Material Safety Data Sheet Hydrogen Peroxide Material Safety Data Sheet

# MATERIAL SAFETY DATA SHEET

#### **Sodium Persulfate**



MSDS Ref. No.: 7775-27-1 **Date Approved:** 04/30/2006

**Revision No.:** 12

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Sodium Persulfate

**SYNONYMS:** Sodium Peroxydisulfate; Disodium Peroxydisulfate

**GENERAL USE:** Polymerization initiator. Etchant and cleaner in manufacture of

> printed circuit boards. Booster in hair bleaching formulations in cosmetics. Secondary oil recovery systems as a polymerization

initiator and a gel breaker.

#### **MANUFACTURER**

(215) 299-6000 (General Information)

FMC CORPORATION (303) 595-9048 (Medical - U.S. - Call Collect) FMC Peroxygens 1735 Market Street Philadelphia, PA 19103

#### **EMERGENCY TELEPHONE NUMBERS**

For leak, fire, spill, or accident emergencies, call: (800) 424-9300 (CHEMTREC - U.S.A. & Canada)

# 2. HAZARDS IDENTIFICATION

#### **EMERGENCY OVERVIEW:**

- White, odorless, crystals
- Oxidizer.
- Decomposes in storage under conditions of moisture (water/water vapor) and/or excessive heat causing release of oxides of sulfur and oxygen that supports combustion. Decomposition could form a high temperature melt. See Section 10 ("Stability and Reactivity").

**POTENTIAL HEALTH EFFECTS:** Airborne persulfate dust may be irritating to eyes, nose, lungs, throat and skin upon contact. Exposure to high levels of persulfate dust may cause difficulty in breathing in sensitive persons.

# 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sodium Persulfate	7775-27-1	>99	231-892-1	Not classified

Date: 04/30/2006

## 4. FIRST AID MEASURES

**EYES:** Flush with plenty of water. Get medical attention if irritation occurs and persists.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**NOTES TO MEDICAL DOCTOR:** This product has low oral toxicity and is not irritating to the eyes and skin. Flooding of exposed areas with water is suggested, but gastric lavage or emesis induction for ingestions must consider possible aggravation of esophageal injury and the expected absence of system effects. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

# 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Deluge with water.

**FIRE / EXPLOSION HAZARDS:** Product is non-combustible. On decomposition releases oxygen which may intensify fire. Presence of water accelerates decomposition.

**FIRE FIGHTING PROCEDURES:** Do not use carbon dioxide or other gas filled fire extinguishers; they will have no effect on decomposing persulfates. Wear full protective clothing and self-contained breathing apparatus.

FLAMMABLE LIMITS: Non-combustible

**SENSITIVITY TO IMPACT:** No data available

#### **SENSITIVITY TO STATIC DISCHARGE:** Not available

# 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Spilled material should be collected and put in approved DOT container and isolated for disposal. Isolated material should be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water and dispose as a hazardous waste. All disposals should be carried out according to regulatory agencies procedures.

Date: 04/30/2006

# 7. HANDLING AND STORAGE

**HANDLING:** Use adequate ventilation when transferring product from bags or drums. Wear respiratory protection if ventilation is inadequate or not available. Use eye and skin protection. Use clean plastic or stainless steel scoops only.

**STORAGE:** Store (unopened) in a cool, clean, dry place away from point sources of heat, e.g. radiant heaters or steam pipes. Use first in, first out storage system. Avoid contamination of opened product. In case of fire or decomposition (fuming/smoking) deluge with plenty of water to control decomposition. For storage, refer to NFPA Bulletin 430 on storage of liquid and solid oxidizing materials.

**COMMENTS:** VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. Spills should be collected into suitable containers to prevent dispersion into the air.

# 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### **EXPOSURE LIMITS**

Chemical Name	ACGIH	OSHA	Supplier
Sodium Persulfate	0.1 mg/m <sup>3</sup> (TWA)		

**ENGINEERING CONTROLS:** Provide mechanical local general room ventilation to prevent release of dust into the work environment. Remove contaminated clothing immediately and wash before reuse.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Use cup type chemical goggles. Full face shield may be used.

**RESPIRATORY:** Use approved dust respirator when airborne dust is expected.

**PROTECTIVE CLOTHING:** Normal work clothes. Rubber or neoprene footwear.

**GLOVES:** Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: None

**APPEARANCE:** White crystals

**AUTOIGNITION TEMPERATURE:** Not applicable. No evidence of combustion up to 800°C.

Decomposition will occur upon heating.

Date: 04/30/2006

BOILING POINT: Not applicable

COEFFICIENT OF OIL / WATER: Not applicable

DENSITY / WEIGHT PER VOLUME: Not available

**EVAPORATION RATE:** Not applicable (Butyl Acetate = 1)

FLASH POINT: Non-combustible

MELTING POINT: Decomposes

ODOR THRESHOLD: Not applicable

OXIDIZING PROPERTIES: Oxidizer

PERCENT VOLATILE: Not applicable

**pH:** typically 5.0 - 7.0 @ 25 °C (1% solution)

**SOLUBILITY IN WATER:** 73 % @ 25 °C (by wt.)

**SPECIFIC GRAVITY:**  $2.6 (H_2O=1)$ 

**VAPOR DENSITY:** Not applicable (Air = 1)

VAPOR PRESSURE: Not applicable

# 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Heat, moisture and contamination.

**STABILITY:** Stable (becomes unstable in presence of heat,

moisture and/or contamination).

**POLYMERIZATION:** Will not occur

**INCOMPATIBLE MATERIALS:** Acids, alkalis, halides (fluorides, chlorides,

bromides and iodides), combustible materials, most metals and heavy metals, oxidizable materials, other oxidizers, reducing agents, cleaners, and organic or carbon containing compounds. Contact

with incompatible materials can result in a material decomposition or other uncontrolled reactions.

Date: 04/30/2006

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxygen that supports combustion and oxides of

sulfur.

**COMMENTS:** PRECAUTIONARY STATEMENT: Use of persulfates in chemical reactions requires appropriate precautions and design considerations for pressure and thermal relief.

Decomposing persulfates will evolve large volumes of gas and/or vapor, can accelerate exponentially with heat generation, and create significant and hazardous pressures if contained and not properly controlled or mitigated.

Use with alcohols in the presence of water has been demonstrated to generate conditions that require rigorous adherence to process safety methods and standards to prevent escalation to an uncontrolled reaction.

## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

**SKIN EFFECTS:** Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

**DERMAL LD**<sub>50</sub>: > 10 g/kg [FMC Study Number: ICG/T-79.029]

**ORAL LD**<sub>50</sub>: 895 mg/kg (rat) [FMC Study Number: ICG/T-79.029]

**INHALATION LC**<sub>50</sub>: 5.1 mg/l (rat) [FMC I95-2017]

**SENSITIZATION:** May be sensitizing to allergic persons. [FMC Study Number: ICG/T-79.029]

**TARGET ORGANS:** Eyes, skin, respiratory passages

**ACUTE EFFECTS FROM OVEREXPOSURE:** Dust may be harmful and irritating. May be harmful if swallowed.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** Sensitive persons may develop dermatitis and asthma [Respiration 38:144, 1979]. Groups of male and female rats were fed 0, 300 or 3000 ppm sodium persulfate in the diet for 13 weeks, followed by 5000 ppm for 5 weeks. Microscopic examination of tissues revealed some injury to the gastrointestinal tract at the high dose (3000 ppm) only. This effect is not unexpected for an oxidizer at high concentrations. [Ref. FMC I90-1151, Toxicologist 1:149, 1981].

#### **CARCINOGENICITY:**

NTP: Not listed
IARC: Not listed
OSHA: Not listed

**OTHER:** ACGIH: Not listed

# 12. ECOLOGICAL INFORMATION

#### ECOTOXICOLOGICAL INFORMATION:

Bluegill sunfish, 96-hour  $LC_{50} = 771$  mg/L [FMC Study I92-1250] Rainbow trout, 96-hour  $LC_{50} = 163$  mg/L [FMC Study I92-1251] Daphnia, 48-hour  $LC_{50} = 133$  mg/L [FMC Study I92-1252] Grass shrimp, 96-hour  $LC_{50} = 519$  mg/L [FMC Study I92-1253]

**CHEMICAL FATE INFORMATION:** Biodegradability does not apply to inorganic substances.

Date: 04/30/2006

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dispose as a hazardous waste in accordance with local, state and federal regulatory agencies.

5.1 (Oxidizer)

# 14. TRANSPORT INFORMATION

PRIMARY HAZARD CLASS / DIVISION:

#### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

**PROPER SHIPPING NAME:** Sodium Persulfate

UN/NA NUMBER: UN 1505

PACKING GROUP: III

LABEL(S): 5.1 (Oxidizer)

PLACARD(S): 5.1 (Oxidizer)

MARKING(S): Sodium Persulfate, UN 1505

ADDITIONAL INFORMATION: Hazardous Substance/RQ: Not applicable

49 STCC Number: 4918733

This material is shipped in 225 lb. fiber drums, 55 lb. poly bags and 1000 - 2200 lb.

Date: 04/30/2006

IBC's (supersacks).

#### INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

**PROPER SHIPPING NAME:** Sodium Persulfate

# INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

**PROPER SHIPPING NAME:** Sodium Persulfate

#### **OTHER INFORMATION:**

Protect from physical damage. Do not store near acids, moisture or heat.

## 15. REGULATORY INFORMATION

#### **UNITED STATES**

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):

Not applicable

#### **SECTION 311 HAZARD CATEGORIES (40 CFR 370):**

Fire Hazard, Immediate (Acute) Health Hazard

#### SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None

#### **SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

Not listed

# CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

#### CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):

Unlisted, RQ = 100 lbs., Ignitability

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY STATUS (40 CFR 710):

Listed

# RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):

Waste Number: D001

#### **CANADA**

#### WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Product Identification Number: 1505

Hazard Classification / Division: Class C (Oxidizer), Class D, Div. 2, Subdiv. B. (Toxic)

Date: 04/30/2006

Ingredient Disclosure List: Listed

#### INTERNATIONAL LISTINGS

Sodium persulfate: Australia (AICS): Listed

China: Listed

Japan (ENCS): (1)-1131 Korea: KE-12369

Philippines (PICCS): Listed

### HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

EC Symbols: (Not classified as hazardous)

EC Risk Phrases: (Not classified as hazardous)

EC Safety Phrases: (Not classified as hazardous)

# 16. OTHER INFORMATION

#### **HMIS**

Health	1
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	J

Protection = J (Safety goggles, gloves, apron & combination dust & vapor respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:

4 = Severe

- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

#### **NFPA**

Health	1
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

#### **REVISION SUMMARY:**

This MSDS replaces Revision #11, dated February 22, 2005. Changes in information are as follows:
Section 1 (Product and Company Identification)
Section 3 (Composition / Information on Ingredients)
Section 16 (Other Information)

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Date: 04/30/2006



Material Safety Data Sheet ATOFINA Chemicals, Inc.

#### 1 PRODUCT AND COMPANY IDENTIFICATION

Basic Chemicals EMERGENCY PHONE NUMBERS:

2000 Market Street Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887

Medical: Rocky Mountain Poison Control Center

(303) 623-5716 (24Hrs)

Information Telephone Numbers Phone Number Available Hrs

Product Information 215-419-7704 8:30 a.m. - 5:00 p.m.

(Eastern)

Product Name Hydrogen Peroxide, 35% (All Grades)

Product Synonym(s) See Miscellaneous Section for all grades covered by this MSDS.

Chemical Family Peroxide
Chemical Formula H2O2

Chemical Formula H2O2
Chemical Name Hvdro

Chemical Name Hydrogen Peroxide Solution, 35%

EPA Reg Num Product Use

Philadelphia, PA 19103

IN CANADA, IN CASE OF EMERGENCY CALL:

CANUTEC 613-996-6666

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Water	7732-18-5	65%	N
Hydrogen peroxide	7722-84-1	35%	Υ

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA inventory list.

## 3 HAZARDS IDENTIFICATION

## **Emergency Overview**

Water white liquid with slightly sharp odor.

DANGER!

CAUSES EYE BURNS. MAY CAUSE BLINDNESS.

CAUSES SKIN BURNS.

CAUSES RESPIRATORY TRACT BURNS.

HARMFUL IF SWALLOWED.

STRONG OXIDIZER.

CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSIVE DECOMPOSITION.

#### **Potential Health Effects**

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be moderately toxic if swallowed, practically non-toxic if absorbed

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 1 of 7



Material Safety Data Sheet ATOFINA Chemicals, Inc.

through skin, slightly toxic if inhaled, and corrosive to eyes and skin. Inhalation of high concentrations of vapor or mist may cause severe irritation of the eyes, nose and upper respiratory tract with cough, chest discomfort and, in severe cases, pulmonary edema (accumulation of fluid in the lungs). Skin contact with concentrated liquid for a short period of time may cause a temporary whitening or bleaching of the skin. Prolonged or repeated contact with skin may cause severe irritation or burns characterized by a tingling sensation, redness, swelling and possible destruction of the dermis with ulceration. If swallowed, this material may cause irritation, burns or perforation of the gastrointestinal tract including the stomach and intestines. Symptoms of injury may include nausea, vomiting, diarrhea, abdominal pain, bleeding or tissue ulceration.

#### 4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

#### 5 FIRE FIGHTING MEASURES

## **Fire and Explosive Properties**

Auto-Ignition Temperature NA Flash Point None

Flammable Limits- Upper NA

Lower NA

## **Extinguishing Media**

Use water spray, water fog.

## Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Flash Point Method

## Fire and Explosion Hazards

Solutions above 65% are especially hazardous as they do not contain enough water to remove the heat of decomposition by evaporation. Avoid breathing fumes from fire exposed material.

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 2 of 7



Material Safety Data Sheet ATOFINA Chemicals, Inc.

#### 6 ACCIDENTAL RELEASE MEASURES

## In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Flush with plenty of water. Combustible materials exposed to hydrogen peroxide should be rinsed immediately with large amounts of water to ensure that all the hydrogen peroxide is removed. Residual hydrogen peroxide which is allowed to dry on organic materials such as paper, fabrics, cotton, leather, wood, or other combustibles can cause the material to ignite and result in a fire. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

#### 7 HANDLING AND STORAGE

## Handling

Do not get in eyes, on skin or on clothing. Do not breathe mist. Do not taste or swallow. Wash thoroughly after handling. Use only with adequate ventilation. Avoid contamination. Keep container closed.

## Storage

Store separate from acids, alkalies, reducing agents, combustibles.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## **Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

## **Eye / Face Protection**

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

#### Skin Protection

Neoprene, Polyvinyl chloride, Butyl rubber Gloves should be worn when handling this material. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

## **Respiratory Protection**

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

## **Other Protective Equipment**

Rubber boots with neoprene or pvc soles. Do NOT wear leather boots. Note: As the water content of hydrogen peroxide evaporates, cotton, rayon, and wool fibers are particularly subject to spontaneous combustion. Where there is significant risk of sudden splash or spray, it is advised that an apron or rubber suit be worn. Any contaminated clothing, including gloves, shoes, aprons, coveralls, etc., should be removed immediately and thoroughly flushed with water to eliminate any traces of hydrogen peroxide before cleaning and reuse.

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 3 of 7



Material Safety Data Sheet ATOFINA Chemicals, Inc.

## **Airborne Exposure Guidelines for Ingredients**

Exposure Limit Value

## Hydrogen peroxide

ACGIH TWA - 1 ppm 1.4 mg/m3
OSHA TWA PEL - 1 ppm 1.4 mg/m3

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor Water white liquid with slightly sharp odor.

pH NE

Specific Gravity 1.13 @ 20 C Vapor Pressure 24 @ 20 C Vapor Density 1.0

Melting Point NE

Freezing Point -33 C (-27 F)
Boiling Point 108 C (226 F)
Solubility In Water Complete
Percent Volatile 100%
Molecular Weight 34.01

## 10 STABILITY AND REACTIVITY

## Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

## Incompatibility

Material decomposes with the potential to produce an rupture of unvented closed containers. Contact with metals, metal ions, organics, wood, dust, shavings, dry vegetables may cause decomposition.

## **Hazardous Decomposition Products**

This material decomposes if contaminated, causing fire and possible explosions. Oxygen can be liberated at temperatures above ambient.

#### 11 TOXICOLOGICAL INFORMATION

## Toxicological Information

Data on this material and/or its components are summarized below. Hydrogen Peroxide Single exposure (acute) studies indicate that this material is moderately toxic if swallowed (rat LD50 805 mg/kg; 70% solution), practically non-toxic if absorbed through skin (rabbit LD50 >6,500 mg/kg; 70% solution), slightly toxic if inhaled (no mortality in rats at 170 mg/m3 for 4 hours), and corrosive to rabbit eyes and skin. No skin allergy was observed in guinea pigs following repeated exposure. Solutions are commonly used for disinfecting wounds, bleaching hair or as a mouth wash and generally do not show adverse skin reactions. Accidental ingestion by children has resulted in death from lung edema, stomach erosions and gas distention and burns to the throat and esophagus. Eye and throat irritation and bleaching of hair have been reported by workers

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 4 of 7

<sup>-</sup>Only those components with exposure limits are printed in this section.

<sup>-</sup>Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

<sup>-</sup>ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

<sup>-</sup>WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.



Material Safety Data Sheet ATOFINA Chemicals, Inc.

#### 11 TOXICOLOGICAL INFORMATION

exposed to this material in the atmosphere.

Several studies have been conducted by administering material in the drinking water of mice and rats. The primary findings were irritation of the gastric mucous. Repeated inhalation exposure of rats and mice caused nasal irritation without notable adverse effects on the lining of the upper respiratory system. Repeated inhalation exposure of dogs resulted in upper respiratory tract irritation and emphysematous changes in the lungs. Generally, long-term oral dosing caused no adverse effects other than erosion of the stomach lining from direct application of the test material. Several studies have shown an increase in gastrointestinal tract tumors in mice and rats following long-term exposure in the drinking water. Concentrations less than 1% do not promote gastrointestinal tumors. The U.S. Federal Drug Administration has concluded that there is insufficient evidence of carcinogenicity and the International Agency for Research on Cancer (IARC) has concluded that this chemical is not classifiable as to its carcinogenicity to humans (Group 3). Genetic changes were observed in tests using bacteria and animal cells, but not in animals.

#### 12 ECOLOGICAL INFORMATION

## **Ecotoxicological Information**

Data on this material and/or its components are summarized below.

Hydrogen Peroxide

This material is highly toxic to marine algae (LC50 0.85 mg/l), moderately toxic to Daphnia magna (EC50 7.7 mg/l) and Daphnia pulex (LC50 2.4 mg/l). It is slightly toxic to coho salmon (LC50 10 mg/l), channel catfish (LC50 37.4 mg/l), golden orfe (LC50 35 mg/l), fathead minnow (LC50 16.4 mg/l), snail (LC50 17.7 mg/l) and bacteria (EC50 30 mg/l).

#### **Chemical Fate Information**

No data are available.

## 13 DISPOSAL CONSIDERATIONS

#### **Waste Disposal**

Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

## 14 TRANSPORT INFORMATION

DOT Name Hydrogen Peroxide, Aqueous Solution, with not less than 20% but not more

than 40% Hydrogen Peroxide

**DOT Technical Name** 

DOT Hazard Class 5.1
UN Number UN 2014
DOT Packing Group PG II

RQ

DOT Special Information Subsidiary (8)

Non-Bulk packages must have Class 5.1 and Class 8 labels.

Bulk packages require Class 5.1 Oxidizer placards.

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 5 of 7



Material Safety Data Sheet ATOFINA Chemicals, Inc.

#### 15 REGULATORY INFORMATION

## Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health Y Fire N
Delayed (Chronic) Health N Reactive Y
Sudden Release of Pressure N

The components of this product are all on the TSCA inventory list.

## **Ingredient Related Regulatory Information:**

SARA Reportable Quantities

Hydrogen peroxide

Water

CERCLA RQ

NE

1000 LBS

NE

## SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Hydrogen peroxide

#### Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List

Hydrogen peroxide

## **New Jersey Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List. Hydrogen peroxide

## Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List. Hydrogen peroxide

## Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List. Hydrogen peroxide

#### **16 OTHER INFORMATION**

## **Revision Information**

Revision Date 05 FEB 2002 Revision Number 13

Supercedes Revision Dated 29-NOV-2001

## **Revision Summary**

removed product use

Key

NE = Not Established NA = Not Applicable (R) = Registered Trademark

## Miscellaneous

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 6 of 7



Material Safety Data Sheet ATOFINA Chemicals, Inc.

This MSDS covers the following grades of H2O2: Albone; Alb; Alb AG; Alb CG; Tys MS; MS; FG; Perone ASG; Perone EG; Pure; Valsterane AL-4

ATOFINA Chemicals, Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of ATOFINA Chemicals, ATOFINA Chemicals expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

Product Code: 04505 Revision: 13 Issued: 05 FEB 2002 Page 7 of 7

## **APPENDIX B**

Laboratory Analytical Reports



September 28, 2007

Terry Montoya Farallon Consulting LLC 975 5th Ave NW Ste 100 Issaquah, WA/USA 98027

RE: Port Orchard Bulk Plant and Cardlock

Enclosed are the results of analyses for samples received by the laboratory on 09/14/07 13:30. The following list is a summary of the Work Orders contained in this report, generated on 09/28/07 15:26.

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

W O. I.	Desired	Decision Alexander
Work Order	<u>Project</u>	<u>ProjectNumber</u>
BQI0342	Port Orchard Bulk Plant and C	874-001

TestAmerica - Seattle, WA

Kate Haney, Project Manager







Farallon Consulting LLC Project Name: Port Orchard Bulk Plant and Cardlock

975 5th Ave NW Ste 100Project Number:874-001Report Created:Issaquah, WA/USA 98027Project Manager:Terry Montoya09/28/07 15:26

ANALYTICAL REPORT FOR SAMPLES								
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received				
MW16-091407	BQI0342-01	Water	09/14/07 09:25	09/14/07 13:30				

TestAmerica - Seattle, WA

Kate Haney, Project Manager







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

Port Orchard Bulk Plant and Cardlock **Farallon Consulting LLC** Project Name:

975 5th Ave NW Ste 100 874-001 Report Created: Project Number: Issaquah, WA/USA 98027 Project Manager: Terry Montoya 09/28/07 15:26

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQI0342-01 (MW16-091407)		Wa	iter		Sampl	ed: 09/1	14/07 09:25			
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	133		50.0	ug/l	1x	7I21041	09/21/07 10:46	09/21/07 23:44	
Surrogate(s): 4-BFB (FID)			85.2%		58 - 144 %	"			"	
BQI0342-01RE1 (MW16-091407)		Wa	iter		Sampl	ed: 09/1	14/07 09:25			
Benzene	NWTPH-Gx/802 1B	57.1		0.500	ug/l	1x	7124029	09/24/07 11:05	09/26/07 03:05	
Toluene	"	ND		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (PID)			99.7%		68 - 140 %	"			"	

TestAmerica - Seattle, WA





Farallon Consulting LLC Project Name: Port Orchard Bulk Plant and Cardlock

975 5th Ave NW Ste 100Project Number:874-001Report Created:Issaquah, WA/USA 98027Project Manager:Terry Montoya09/28/07 15:26

#### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica - Seattle, WA QC Batch: 7I21041 EPA 5030B (P/T) Water Preparation Method: REC (Limits) Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) Analyzed Notes RPD Result Blank (7I21041-BLK1) Extracted: 09/21/07 10:46 Gasoline Range Hydrocarbons NWTPH-Gx/ ND 50.0 1x 09/21/07 13:47 ug/l 8021B Surrogate(s): 4-BFB (FID) 84.4% Limits: 58-144% 09/21/07 13:47 Recovery: LCS (7I21041-BS1) Extracted: 09/21/07 10:46 NWTPH-Gx/ 980 50.0 1x 98.0% (80-120) 09/21/07 14:20 Gasoline Range Hydrocarbons ug/l 1000 ---8021B 09/21/07 14:20 Surrogate(s): 4-BFB (FID) Limits: 58-144% 92.3% Recovery: Extracted: 09/21/07 10:46 Duplicate (7I21041-DUP1) QC Source: BQI0266-01 Gasoline Range Hydrocarbons NWTPH-Gx/ ND 50.0 ND (25) 09/21/07 15:59 ug/l 1x NR 8021B Limits: 58-144% 09/21/07 15:59 Surrogate(s): 4-BFB (FID) Recovery: 84.7% QC Source: BQI0195-02 Extracted: 09/21/07 10:46 Duplicate (7I21041-DUP2) Gasoline Range Hydrocarbons NWTPH-Gx/ 50.0 ug/l 1x75.0 6.64% (25) 09/21/07 17:06 8021B Surrogate(s): 4-BFB (FID) 86.2% Limits: 58-144% 09/21/07 17:06 Recovery: Matrix Spike (7I21041-MS1) QC Source: BQI0266-01 Extracted: 09/21/07 10:46 Gasoline Range Hydrocarbons NWTPH-Gx/ 1020 102% (75-131) 09/21/07 18:12 ug/l Surrogate(s): 4-BFB (FID) 91.5% Limits: 58-144% 09/21/07 18:12 Recovery:

QC Batch: 7I24029	Water I	Preparation	n Method: E	PA 5030B	S (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Blank (7I24029-BLK1)								Extr	acted:	09/24/07 11	1:05			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x							09/25/07 12:43	
Benzene	"	ND		0.500	"	"							"	
Toluene	"	ND		0.500	"	"							"	
Ethylbenzene	"	ND		0.500	"	"							"	
Xylenes (total)	"	ND		1.00	"								"	
Surrogate(s): 4-BFB (FID)		Recovery:	85.7%	Lin	nits: 58-144%	"							09/25/07 12:43	
4-BFB (PID)			101%		68-140%	"							"	
LCS (7I24029-BS1)								Extr	acted:	09/24/07 11	1:05			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	978		50.0	ug/l	1x		1000	97.8%	(80-120)			09/25/07 13:17	
Surrogate(s): 4-BFB (FID)		Recovery:	93.3%	Lir	nits: 58-144%	"							09/25/07 13:17	

TestAmerica - Seattle, WA

Mall Dhurg





Port Orchard Bulk Plant and Cardlock **Farallon Consulting LLC** Project Name:

975 5th Ave NW Ste 100 Project Number: 874-001 Report Created: Issaquah, WA/USA 98027 Project Manager: 09/28/07 15:26 Terry Montoya

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 7I24029	Water I	Preparation	n Method: F	EPA 5030B	3 (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7I24029-BS2)								Ext	racted:	09/24/07 11	:05			
Benzene	NWTPH-Gx/	31.9		0.500	ug/l	1x		30.0	106%	(80-120)			09/25/07 13:50	
Toluene	8021B	29.2		0.500	"	,,		"	97.5%				,,	
Ethylbenzene	"	29.6		0.500	"	"		"	98.7%	"			"	
Xylenes (total)	"	93.9		1.00	"	"		90.0	104%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	98.9%	Lii	nits: 68-140%	"							09/25/07 13:50	
Duplicate (7I24029-DUP1)				QC Source	: BQI0264-03	;		Ext	racted:	09/24/07 11	:05			
Gasoline Range Hydrocarbons	NWTPH-Gx/	695		50.0	ug/l	1x	731				5.09%	(25)	09/25/07 14:57	
Benzene	8021B	1.72		0.500	"	"	1.80				5.00%	. "	"	
Toluene	"	10.4		0.500	"	"	11.2				7.50%	"	"	
Ethylbenzene	"	18.2		0.500	"	"	19.7				7.51%	"	"	
Xylenes (total)	"	85.2		1.00	"	"	91.4				6.97%	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	91.0% 97.8%	Lin	mits: 58-144% 68-140%								09/25/07 14:57	
Duplicate (7I24029-DUP2)				QC Source	: BQI0343-02	RE1		Ext	racted:	09/24/07 11	:05			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	267		50.0	ug/l	1x	270				1.27%	(25)	09/25/07 16:03	
Benzene	8021B	21.9		0.500	"	"	22.4				2.45%	"	"	
Toluene	"	ND		0.500	"	"	ND				33.0%	"	"	
Ethylbenzene	"	3.83		0.500	"	"	3.96				3.23%	"	"	
Xylenes (total)	"	1.26		1.00	"	"	1.47				15.7%	"	"	
Surrogate(s): 4-BFB (FID)		Recovery:		Lii	nits: 58-144%								09/25/07 16:03	
4-BFB (PID)			105%		68-140%	ó "							"	
Matrix Spike (7I24029-MS1)				QC Source	: BQI0264-03	3		Ext	racted:	09/24/07 11	:05			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1690		50.0	ug/l	1x	731	1000	96.0%	(75-131)			09/25/07 16:36	
Surrogate(s): 4-BFB (FID)		Recovery:	99.7%	Lii	nits: 58-144%	"							09/25/07 16:36	
Matrix Spike (7I24029-MS2)				QC Source	: BQI0343-02	RE1		Ext	racted:	09/24/07 11	:05			
Benzene	NWTPH-Gx/ 8021B	53.3		0.500	ug/l	1x	22.4	30.0	103%	(46-130)			09/25/07 17:42	
Toluene	"	30.4		0.500	"	"	0.230	"	101%	(60-124)			"	
Ethylbenzene	"	34.7		0.500	"	"	3.96	"	102%	(56-141)			"	
Xylenes (total)	"	100		1.00	"	"	1.47	90.0	110%	(66-132)			"	
Surrogate(s): 4-BFB (FID)		Recovery:	95.3%	Lii	mits: 58-144%								09/25/07 17:42	
4-BFB (PID)			98.8%		68-1409	0							*	

TestAmerica - Seattle, WA







Surrogate(s): 4-BFB (FID)

09/25/07 17:09

**Farallon Consulting LLC** Port Orchard Bulk Plant and Cardlock Project Name:

99.2%

Recovery:

975 5th Ave NW Ste 100 874-001 Report Created: Project Number: Issaquah, WA/USA 98027 Project Manager: 09/28/07 15:26 Terry Montoya

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica - Seattle, WA

QC Batch: 7I24029 Water Preparation Method: EPA 5030B (P/T)

8021B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike % Amt REC	(Limits)	% (Limit	ts) Analyzed	Notes
Matrix Spike Dup (7124029	-MSD1)			QC Source:	BQI0264-0	3		Extracted:	09/24/07 11:	05		
Gasoline Range Hydrocarbons	NWTPH-Gx/	1690		50.0	ug/l	1x	731	1000 95.6%	(75-131)	0.236% (25)	09/25/07 17:09	

Limits: 58-144%

TestAmerica - Seattle, WA





11720 NORTH CREEK PKWY N. SUITE 400 BOTHELL, WA 98011-8244

PH: (425) 420.9200 FAX: (425) 420.9210

THE LEADER IN ENVIRONMENTAL TESTING

Port Orchard Bulk Plant and Cardlock **Farallon Consulting LLC** Project Name:

874-001 975 5th Ave NW Ste 100 Report Created: Project Number: Issaquah, WA/USA 98027 Project Manager: Terry Montoya 09/28/07 15:26

#### **Notes and Definitions**

#### Report Specific Notes:

R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

## **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

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table. MRL

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 - Seattle WA





11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

11922 E. First Ave, Spokane, WA 99206-5302

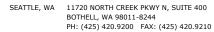
509-924-9200 FAX 924-9290

9405 SW Nimbus Ave, Beaverton, OR 97008-7145

503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

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January 09, 2008

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 12/21/07 10:55. The following list is a summary of the Work Orders contained in this report, generated on 01/09/08 15:26.

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

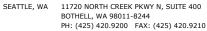
Work Order	Project	<u>ProjectNumber</u>
BQL0352	Nordic Properties - Port Orcha	0644-001-01

TestAmerica Seattle

Blake T. Meinert For Kate Haney, Project Manager

Blake Warms







**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 01/09/08 15:26 Terry Montoya

ANAI	VTICAL	REPORT FOR	SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW16-20071220	BQL0352-01	Water	12/20/07 13:13	12/21/07 10:55

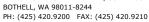
TestAmerica Seattle

Blake T. Meinert For Kate Haney, Project Manager

Blake Macunt









**Sound Environmental Strategies** 2400 Airport Way South, Suite 200

Seattle, WA/USA 98134-2020

Project Name:

**Nordic Properties - Port Orchard** 

Project Number: Project Manager: 0644-001-01 Terry Montoya Report Created:

01/09/08 15:26

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQL0352-01	(MW16-20071220	)	Wa	iter		Sampl	ed: 12/2	20/07 13:13			1
Gasoline Range Hy	drocarbons	NWTPH-Gx/802 1B	ND		50.0	ug/l	1x	7L31026	12/31/07 12:10	12/31/07 16:57	
Surrogate(s):	4-BFB (FID)			86.0%		58 - 144 %	"			"	
	4-BFB (PID)			107%		68 - 140 %	"			"	
BQL0352-01RE	1 (MW16-200712	20)	Wa	iter		Sampl	ed: 12/2	20/07 13:13			
Benzene		NWTPH-Gx/802 1B	59.3		0.500	ug/l	1x	8A02024	01/02/08 12:03	01/02/08 15:16	
Toluene		"	ND		0.500	"	"	"	"	"	
Ethylbenzene		"	ND		0.500	"	"	"	"	"	
Xylenes (total)		"	ND		1.00	"	"	"	"	"	
Surrogate(s):	4-BFB (FID)			76.0%		58 - 144 %	"			"	
	4-BFB (PID)			98.6%		68 - 140 %	"			"	

TestAmerica Seattle

Blake Maunt

Blake T. Meinert For Kate Haney, Project Manager





**Sound Environmental Strategies** 2400 Airport Way South, Suite 200

Seattle, WA/USA 98134-2020

Project Name:

**Nordic Properties - Port Orchard** 

Project Number: 0644-001-01
Project Manager: Terry Montoya

Report Created: 01/09/08 15:26

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 7L31026	Water F	reparation	1 Method	d: EPA 50	)30B	(P/T)									
Analyte	Method	Result	N	IDL* N	IRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits)	Analyzed	Note
Blank (7L31026-BLK1)									Ext	racted:	12/31/07 12	:10			
Gasoline Range Hydrocarbons	NWTPH-Gx/	ND	-	5	0.0	ug/l	1x							12/31/07 15:12	
Benzene	8021B	ND	-	0.:	500	"	"							"	
Ethylbenzene	"	ND	-	0.:	500	"	"								
Xylenes (total)	"	ND	-	1	.00	"	"							"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	86.9% 106%		Lim	its: 58-144% 68-140%	"							12/31/07 15:12	
LCS (7L31026-BS1)									Ext	racted:	12/31/07 12	:10			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	535	-	5	0.0	ug/l	1x		600	89.2%	(80-120)			12/31/07 15:57	
Surrogate(s): 4-BFB (FID)		Recovery:	91.2%		Lim	nits: 58-144%	"							12/31/07 15:57	
LCS (7L31026-BS2)									Ext	racted:	12/31/07 12	:10			
Benzene	NWTPH-Gx/ 8021B	26.2	-	0.:	500	ug/l	1x		30.0	87.2%	(80-120)			12/31/07 16:27	
Ethylbenzene	"	25.0	-	0.:	500	"	"		"	83.3%	"			"	
Xylenes (total)	"	75.8	-	1	.00	"	"		90.0	84.2%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	107%		Lim	nits: 68-140%	"							12/31/07 16:27	
Duplicate (7L31026-DUP1)				QC S	ource:	BQL0352-01			Ext	racted:	12/31/07 12	:10			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND	-	5	0.0	ug/l	1x	ND				4.58%	(25)	12/31/07 17:27	
Benzene	"	ND	-	0.:	500	"	"	ND				NR	"	"	
Ethylbenzene	"	ND	-	0.:	500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND	-	1	.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	89.8% 108%		Lim	its: 58-144% 68-140%	"							12/31/07 17:27	
Matrix Spike (7L31026-MS1)				QC S	ource:	BQL0352-01			Ext	racted:	12/31/07 12	:10			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	546	-	5	0.0	ug/l	1x	29.6	600	86.1%	(75-131)			12/31/07 19:28	
Surrogate(s): 4-BFB (FID)		Recovery:	97.5%		Lim	nits: 58-144%	"							12/31/07 19:28	
Matrix Spike (7L31026-MS2)				QC S	ource:	BQL0353-01			Ext	racted:	12/31/07 12	:10			
Benzene	NWTPH-Gx/ 8021B	27.1	-	0.:	500	ug/l	1x	0.468	30.0	88.6%	(46-130)	-		12/31/07 19:58	
Ethylbenzene	"	25.2	-	0.:	500	"	"	0.317	"	83.1%	(56-141)			"	
Xylenes (total)	,,	91.0		1	.00		"	15.7	90.0	83.7%	(66-132)				

TestAmerica Seattle

Blake Macunt

Blake T. Meinert For Kate Haney, Project Manager





**Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 Project Number: 0644-001-01 Report Created: Seattle, WA/USA 98134-2020 Project Manager: 01/09/08 15:26 Terry Montoya

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

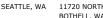
QC Batch: 8A02024	Water F	reparation	Method: E	EPA 5030B	(P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	e % REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8A02024-BLK1)								Ext	racted:	01/02/08 12	2:03			
Benzene	NWTPH-Gx/	ND		0.500	ug/l	1x							01/02/08 13:41	
Toluene	8021B	ND		0.500	"	"								
Ethylbenzene	•	ND		0.500	"	"								
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (PID)		Recovery:	102%	Lin	nits: 68-140%	"							01/02/08 13:41	
LCS (8A02024-BS1)								Ext	racted:	01/02/08 12	2:03			
Benzene	NWTPH-Gx/ 8021B	27.7		0.500	ug/l	1x		30.0	92.4%	(80-120)			01/02/08 14:14	
Toluene	8021B	29.5		0.500	"	"		"	98.2%	"				
Ethylbenzene	"	30.8		0.500	"	"		"	103%	"			"	
Xylenes (total)	"	92.1		1.00	"	"		90.0	102%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	103%	Lin	nits: 68-140%	"							01/02/08 14:14	
Duplicate (8A02024-DUP1)				QC Source:	BQL0352-0	1RE1		Ext	racted:	01/02/08 12	::03			
Benzene	NWTPH-Gx/	54.2		0.500	ug/l	1x	59.3				9.05%	(25)	01/02/08 15:48	
Toluene	8021B	ND		0.500	"	"	ND				21.0%	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				39.2%	"	"	R
Surrogate(s): 4-BFB (PID)		Recovery:	98.8%	Lin	nits: 68-140%	"							01/02/08 15:48	
Duplicate (8A02024-DUP2)				QC Source:	BQL0353-0	1RE1		Ext	racted:	01/02/08 12	2:03			
Benzene	NWTPH-Gx/ 8021B	ND		0.500	ug/l	1x	0.510				4.82%	(25)	01/02/08 16:54	
Toluene	8021B	ND		0.500	"	"	ND				4.72%	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				2.19%	"	"	
Xylenes (total)	"	18.9		1.00	"	"	19.0				0.558%	5 "		
Surrogate(s): 4-BFB (PID)		Recovery:	103%	Lin	nits: 68-140%	"							01/02/08 16:54	
Matrix Spike (8A02024-MS1)				QC Source:	BQL0352-0	1RE1		Ext	racted:	01/02/08 12	::03			
Benzene	NWTPH-Gx/ 8021B	83.5		0.500	ug/l	1x	59.3	30.0	80.7%	(46-130)			01/02/08 19:04	
Toluene	8021B	30.2		0.500	"	"	0.463	"	99.0%	(60-124)			"	
Ethylbenzene	"	31.0		0.500	"	"	0.174	"	103%	(56-141)			"	
Xylenes (total)	"	92.9		1.00	"	"	0.809	90.0	102%	(66-132)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	99.7%	Lin	nits: 68-140%	"							01/02/08 19:04	

TestAmerica Seattle

Blake Macunt

Blake T. Meinert For Kate Haney, Project Manager





11720 NORTH CREEK PKWY N. SUITE 400 BOTHELL, WA 98011-8244

PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

Project Name: Project Number: **Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

Project Manager: Terry Montoya

0644-001-01

Report Created: 01/09/08 15:26

#### **Notes and Definitions**

#### Report Specific Notes:

P

The sample, as received, was not preserved in accordance to the referenced analytical method.

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information. R4

#### <u>Laboratory Reporting Conventions:</u>

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). ND

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD

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 -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

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 Seattle

Blake Macunt

Blake T. Meinert For Kate Haney, Project Manager





11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210 11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290 9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

			CHA	IN OF CU	USTODY	REP	ORT						Work O	rder #:	BQLOZ	52
CLIENT: Nordic Prop REPORT TO: Terry M ADDRESS: 2400 Air po Seattle h	mentis				INVOIC				, .						ROUND REQUEST	
REPORT TO: Teny M	ontoya, Son	nd ENU	. Str	<i>stegies</i>	^	Sou	hc t	Labe	erties					i	Business Days *	
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March 26, 2008

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 03/19/08 15:15. The following list is a summary of the Work Orders contained in this report, generated on 03/26/08 15:56.

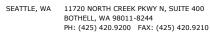
If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>	
BRC0310	Nordic Properties - Port Orcha	0644-001-01	

TestAmerica Seattle

Blake T. Meinert, Project Manager







Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya03/26/08 15:56

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW16-20080318	BRC0310-01	Water	03/18/08 10:42	03/19/08 15:15

TestAmerica Seattle

Blake T. Meinert, Project Manager

Blake Macunt









2400 Airport Way South, Suite 200

Seattle, WA/USA 98134-2020

Project Name:

**Nordic Properties - Port Orchard** 

Project Number: Project Manager: 0644-001-01 Terry Montoya Report Created: 03/26/08 15:56

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRC0310-01 (MW16-20080318	3)	Water			Sampled: 03/18/08 10:42					
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	251		50.0	ug/l	1x	8C21015	03/21/08 09:40	03/21/08 16:56	
Benzene	"	89.7		0.500	"	"	"	"	"	
Toluene	"	0.633		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			98.2%		58 - 144 %	"			"	
4-BFB (PID)			102%		68 - 140 %	"			"	

TestAmerica Seattle

Blake T. Meinert, Project Manager

Blake Macunt





**Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 03/26/08 15:56 Terry Montoya

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

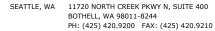
QC Batch: 8C21015	Water P	reparation	Method:	EPA 5030B	S (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	Analyzed	Notes
Blank (8C21015-BLK1)								Extr	acted:	03/21/08 09	:40			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x							03/21/08 14:12	
Benzene	"	ND		0.500	"	"							"	
Toluene	"	ND		0.500	"	"							"	
Ethylbenzene	"	ND		0.500	"	"							"	
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	91.1% 106%	Lin	nits: 58-144% 68-140%	"							03/21/08 14:12	
LCS (8C21015-BS1)								Extr	acted:	03/21/08 09	:40			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	945		50.0	ug/l	1x		1000	94.5%	(80-120)			03/21/08 14:45	
Surrogate(s): 4-BFB (FID)	0021B	Recovery:	103%	Lin	nits: 58-144%	"							03/21/08 14:45	
LCS (8C21015-BS2)								Extr	acted:	03/21/08 09	:40			
Benzene	NWTPH-Gx/ 8021B	29.6		0.500	ug/l	1x		30.0	98.6%	(80-120)			03/21/08 15:17	
Toluene	"	29.5		0.500	"	"		"	98.4%	"				
Ethylbenzene	"	30.0		0.500	"	"		"	99.9%	"			"	
Xylenes (total)	"	89.7		1.00	"	"		90.0	99.7%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	101%	Lin	nits: 68-140%	"							03/21/08 15:17	
Duplicate (8C21015-DUP1)				QC Sources	BRC0309-01			Extr	acted:	03/21/08 09	:40			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND				5.35%	(25)	03/21/08 16:23	
Benzene	"	ND		0.500	"	"	ND				5.54%	"	"	
Toluene	"	ND		0.500	"	"	ND				15.2%	"		
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	94.3% 107%	Lii	nits: 58-144% 68-140%	"							03/21/08 16:23	
Duplicate (8C21015-DUP2)				QC Source:	BRC0310-01			Extr	acted:	03/21/08 09	:40			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	248		50.0	ug/l	1x	251				1.48%	(25)	03/21/08 17:29	
Benzene	"	87.4		0.500	"	"	89.7				2.67%	"	"	
Toluene	"	0.636		0.500	"	"	0.633				0.473%	. "		
Ethylbenzene	"	ND		0.500	"	"	ND					"		
Xylenes (total)	"	ND		1.00	"	"	ND				3.30%	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	97.2% 100%	Lir	nits: 58-144% 68-140%	"							03/21/08 17:29	

TestAmerica Seattle

Blake Macuns

Blake T. Meinert, Project Manager







2400 Airport Way South, Suite 200

Seattle, WA/USA 98134-2020

Project Name: Nordic

**Nordic Properties - Port Orchard** 

Project Number: 0644-001-01
Project Manager: Terry Montoya

Report Created: 03/26/08 15:56

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8C21015 Water Preparation Method: EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (8C21015-MS1)				QC Source:	BRC0309-01	l		Exti	racted:	03/21/08 09	:40			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1020		50.0	ug/l	1x	46.6	1000	97.1%	(75-131)			03/21/08 18:02	
Surrogate(s): 4-BFB (FID)		Recovery:	101%	Lin	nits: 58-144%	"							03/21/08 18:02	
Matrix Spike (8C21015-MS2)				QC Source:	BRC0310-01	l		Exti	acted:	03/21/08 09	:40			
Benzene	NWTPH-Gx/ 8021B	107		0.500	ug/l	1x	89.7	30.0	59.2%	(46-130)			03/21/08 18:35	E
Toluene	"	32.2		0.500	"	"	0.633	"	105%	(60-124)			"	
Ethylbenzene	"	32.7		0.500	"	"	ND	"	109%	(56-141)			"	
Xylenes (total)	"	97.3		1.00	"	"	0.646	90.0	107%	(66-132)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	99.8%	Lin	nits: 68-140%	"							03/21/08 18:35	

TestAmerica Seattle

Blake T. Meinert, Project Manager

Blake Macunt





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya03/26/08 15:56

#### **Notes and Definitions**

#### Report Specific Notes:

E - Concentration exceeds the calibration range and therefore result is semi-quantitative.

## **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.

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 - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

Electronic - 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 Seattle

Dil

Blake T. Meinert, Project Manager

Blake Maximi



# **TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244

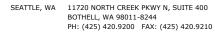
11922 E. First Ave, Spokane, WA 99206-5302 9405 SW Nimbus Ave, Beaverton, OR 97008-7145

425-420-9200 FAX 420-9210 509-924-9200 FAX 924-9290

2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

Work Order #: BRC0310 **CHAIN OF CUSTODY REPORT** INVOICE TO: TURNAROUND REQUEST REPORT TO: Sound Env Strategies, Terry Montoya ADDRESS: 2400 Air part ways
Scuttle WA
PHONE: 7063061900 FAX: 2063061907
PROJECT NAME: Nordic Properties
PROJECT NUMBER: Nardic in Business Days \* Organic & Inorganic Analyses P.O. NUMBER: PRESERVATIVE REQUESTED ANALYSES SAMPLED BY: Cassanda Distelbygen \* Turnaround Requests less than standard may incur Rush Charges. LOCATION/ MATRIX CLIENT SAMPLE COMMENTS WO ID (W, S, O) CONT. DATE/TIME IDENTIFICATION MW16 1 01 MW16-20081318 DATE: 3/19/08 DATE: RECEIVED BY TIME: 1515 DATE: DATE: RECEIVED BY: RELEASED BY: PRINT NAME: TIME: PRINT NAME: ADDITIONAL REMARKS:





June 30, 2008

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 06/25/08 11:57. The following list is a summary of the Work Orders contained in this report, generated on 06/30/08 17:12.

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

Work Order	<u>Project</u>	<u>ProjectNumber</u>	
BRF0355	Nordic Properties - Port Orcha	0644-001-01	

TestAmerica Seattle

Kate Haney For Curtis D. Armstrong, Project Manager







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

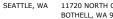
2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 06/30/08 17:12

ANALYTICAL REPORT FOR SAMPLES
-------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	<b>Date Received</b>
MW16-20080623	BRF0355-01	Water	06/23/08 14:53	06/25/08 11:57

TestAmerica Seattle





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



THE LEADER IN ENVIRONMENTAL TESTING

**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 06/30/08 17:12 Terry Montoya

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRF0355-01 (MW16-20080	623)	Water Sampled: 06/23/08 14:53								
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	124		50.0	ug/l	1x	8F28003	06/28/08 10:59	06/28/08 22:48	QP
Benzene	"	46.3		0.500	"	"	"	"	"	
Toluene	"	ND		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			89.2%		58 - 144 %	"			"	
4-BFB (PID)			97.3%		68 - 140 %	"			"	

TestAmerica Seattle





Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya06/30/08 17:12

# Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

								a .r.						
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8F28003-BLK1)								Exti	racted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/	ND		50.0	ug/l	1x							06/28/08 14:18	
Benzene	8021B	ND		0.500	"	"							"	
Toluene	"	ND		0.500	"	"							"	
Ethylbenzene	"	ND		0.500	"	"							"	
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	91.2% 99.1%	Lii	mits: 58-144% 68-140%	"							06/28/08 14:18	
LCS (8F28003-BS1)								Exti	acted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	965		50.0	ug/l	1x		1000	96.5%	(80-120)			06/28/08 14:51	
Surrogate(s): 4-BFB (FID)	*****	Recovery:	99.4%	Lii	mits: 58-144%	"							06/28/08 14:51	
LCS (8F28003-BS2)								Exti	racted:	06/28/08 10	:59			
Benzene	NWTPH-Gx/ 8021B	28.9		0.500	ug/l	1x		30.0	96.2%	(80-120)			06/28/08 15:23	
Toluene	"	29.8		0.500	"	"		"	99.3%	"			"	
Ethylbenzene	"	29.4		0.500	"	"		"	98.0%	"			"	
Xylenes (total)	"	88.7		1.00	"	"		90.0	98.6%	"			"	
Surrogate(s): 4-BFB (PID)		Recovery:	98.8%	Lin	mits: 68-140%	"							06/28/08 15:23	
Duplicate (8F28003-DUP1)				QC Source	: BRF0357-01	RE1		Exti	racted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	983		500	ug/l	10x	1000				2.21%	(25)	06/29/08 11:44	
Benzene	"	378		5.00	"	"	370				2.10%	"	"	
Toluene	"	ND		5.00	"	"	ND				NR	"	"	
Ethylbenzene	"	ND		5.00	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		10.0	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	90.0% 97.6%	Lin	mits: 58-144% 68-140%	1x "							06/29/08 11:44 "	
Duplicate (8F28003-DUP2)				QC Source	: BRF0328-03			Exti	racted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND		-		NR	(25)	06/28/08 17:53	
Benzene	"	ND		0.500	"	"	ND				112%	"	"	R
Toluene	"	ND		0.500	"	"	ND				NR	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	89.9% 99.5%	Lii	mits: 58-144% 68-140%	"							06/28/08 17:53	

TestAmerica Seattle

Kate Haney For Curtis D. Armstrong Project Mana





**Nordic Properties - Port Orchard** 



**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Project Number: 0644-001-01 Report Created: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 06/30/08 17:12

Project Name:

## Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8F28003	Water P	reparation	Method:	EPA 5030B	(P/T)									
Analyte	Method	Result	MDL	.* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	RPD (	(Limits)	Analyzed	Notes
Matrix Spike (8F28003-MS1)				QC Source:	BRF0354-0	I		Extr	acted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1340		50.0	ug/l	lx	265	1000	108%	(75-131)			06/28/08 18:59	
Benzene	"	49.0		0.500	"	"	35.6	17.7	75.8%	(46-130)			"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	107% 96.8%	Lin	nits: 58-144% 68-140%								06/28/08 18:59	
Matrix Spike (8F28003-MS2)		QC Source: BRF0357-01					Extracted: 06/28/08 10:59							
Toluene	NWTPH-Gx/ 8021B	32.5		0.500	ug/l	lx	0.603	30.0	106%	(60-124)		-	06/29/08 02:05	
Ethylbenzene	"	32.5		0.500	"	"	0.136	"	108%	(56-141)			"	
Xylenes (total)	"	97.8		1.00	"	"	1.52	90.0	107%	(66-132)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	100%	Lin	nits: 68-140%	"							06/29/08 02:05	
Matrix Spike Dup (8F28003-MS	SD1)			QC Source:	BRF0354-0	I		Extr	acted:	06/28/08 10	:59			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1310		50.0	ug/l	1x	265	1000	105%	(75-131)	2.53%	(25)	06/28/08 19:32	
Benzene	"	48.7		0.500	"	"	35.6	17.7	74.0%	(46-130)	0.629%	(40)	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	108% 97.8%	Lin	nits: 58-144% 68-140%	" "							06/28/08 19:32	
Matrix Spike Dup (8F28003-MS	SD2)		Extracted: 06/28/08 10:59											
Toluene	NWTPH-Gx/ 8021B	32.6		0.500	ug/l	lx	0.603	30.0	107%	(60-124)	0.381%	(40)	06/29/08 02:38	
Ethylbenzene	"	32.6		0.500	"	"	0.136	"	108%	(56-141)	0.249%	"	"	
Xylenes (total)	"	98.1		1.00	"	"	1.52	90.0	107%	(66-132)	0.326%	"	"	
Surrogate(s): 4-BFB (PID)		Recovery:	100%	Lin	nits: 68-140%	"							06/29/08 02:38	

TestAmerica Seattle

Kate Haney For Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N. SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 06/30/08 17:12

### **Notes and Definitions**

### Report Specific Notes:

OP Hydrocarbon result partly due to individual peak(s) in quantitation range.

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information. R4

### <u>Laboratory Reporting Conventions:</u>

DET Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.

Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate). ND

NR/NA Not Reported / Not Available

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD

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 -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

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.

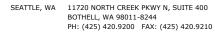
TestAmerica Seattle





11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244 425-420-9200 FAX 420-9210 11922 E. First Ave, Spokane, WA 99206-5302 509-924-9200 FAX 924-9290 9405 SW Nimbus Ave, Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

				STODY I	REPO	RT							Work Or	der#:	BRFO:	355
CLIENT: Nordic Pro	æsties			INVOICE	TO:								1		ROUND REQUEST	
REPORT TO: Term Mo ADDRESS: 2 400 Air	perties n toya, Sound Env work way wa	· 5 Anz	Aesics.										7	Organic	Business Days * & Inorganic Analyses  4 3 2	1 <1
PHONE? AL ZIXA 1900	FAX: 206 Z.V. 190	2		P.O. NUM	BER:			-							Hydrocarbon Analyses	
PROJECT NAME: Novel	FAX: 206 306 190 Properties			I		PRI	ESERVAT	IVE						4	3 2 1 <	1
PROJECT NUMBER:	orchard												STD	· — `		_
PROJECT NUMBIER:						REQUES	STED AN	ALYSES					σ	HER	Specify:	
SAMPLED BY: CASSA nota	Distel bergen	4.7	<b>X</b>										* Turnaround	Requests les	s than standard may incur	Rush Charges.
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	Hadoms	200										MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	TA WO ID
by rath							***						#2	3		
MW16-20080623	6/23/08 1453	X	X										W	3	mwib	01
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PRINT NAME: AGON		SE	5	DATE: TIME:	6-	: 53	08	RECEIVED I	BY:(	thy at h	jan. u (11	nbk	FIRM:	TA	DATE: TIME:	125/0 11:5'
RELEASED BY:	3			DATE:				RECEIVED I	BY:		/				DATE:	
PRINT NAME:	FIRM:			TIME:				PRINT NAM	Œ:				FIRM:		TIME:	
ADDITIONAL REMARKS:															ایرا	ge of





September 26, 2008

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 09/19/08 10:00. The following list is a summary of the Work Orders contained in this report, generated on 09/26/08 15:11.

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

Work Order	<u>Project</u>	<u>ProjectNumber</u>	
BRI0323	Nordic Properties - Port Orcha	0644-001-01	

TestAmerica Seattle

Kate Haney, Project Manager







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 09/26/08 15:11 Terry Montoya

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
New-Wilkins Rd-North	BRI0323-01	Soil	09/18/08 09:45	09/19/08 10:00
New-Wilkins Rd-South	BRI0323-02	Soil	09/18/08 09:30	09/19/08 10:00
New-MW16-South	BRI0323-03	Soil	09/18/08 10:15	09/19/08 10:00

TestAmerica Seattle





BOTHE PH: (4

Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya09/26/08 15:11

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

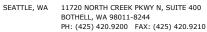
TestAmerica Seattle

				TCStAIII	erica Se	attic					
Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRI0323-01 (Nev	w-Wilkins Rd-N	North)	Soi	il		Sampl	ed: 09/1	18/08 09:45			
Gasoline Range Hydroc	arbons	NWTPH-Gx/802 1B	ND		4.86	mg/kg dry	1x	8I24014	09/24/08 10:04	09/24/08 15:57	
Benzene		"	ND		0.0292	"	"	"	"	"	
Toluene		"	ND		0.0486	"	"	"	"	"	
Ethylbenzene		"	ND		0.0486	"	"	"	"	"	
Xylenes (total)		"	ND		0.0973	"	"	"	"	"	
Surrogate(s): 4-	BFB (FID)			87.7%		50 - 150 %	"			"	
	BFB (PID)			116%		63 - 150 %	"			"	
BRI0323-02 (Nev	v-Wilkins Rd-S	South)	Soi	il		Sampl	ed: 09/1	18/08 09:30			
Gasoline Range Hydro	carbons	NWTPH-Gx/802 1B	90.7		8.24	mg/kg dry	1x	8I24014	09/24/08 10:04	09/24/08 16:57	Q
Benzene		"	ND		0.0495	"	"	"	"	"	
Toluene		"	ND		0.0824	"	"	"	"	"	
Ethylbenzene		"	ND		0.0824	"	"	"	"	"	
Xylenes (total)		"	ND		0.165	"	"	"	"	"	
Surrogate(s): 4	BFB (FID)			160%		50 - 150 %	"			"	ZX
4	BFB (PID)			156%		63 - 150 %	"			"	ZX
BRI0323-03 (Nev	v-MW16-South	n)	Soi	il		Sampl	ed: 09/1	18/08 10:15			
Gasoline Range Hydro	carbons	NWTPH-Gx/802 1B	99.3		7.00	mg/kg dry	1x	8I24014	09/24/08 10:04	09/24/08 17:27	Q
Benzene		"	1.66		0.0420	"	"	"	"	"	
Toluene		"	0.161		0.0700	"	"	"	"	"	
Ethylbenzene		"	0.641		0.0700	"	"	"	"	"	
Xylenes (total)		**	0.694		0.140	"	"	"	"	"	
Surrogate(s): 4	BFB (FID)			134%		50 - 150 %	"			"	
	BFB (PID)			138%		63 - 150 %	"			"	

TestAmerica Seattle

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Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya09/26/08 15:11

### Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BRI0323-01	(New-Wilkins Rd-North)	Soil			Sam	pled: 09/1	8/08 09:45			
Dry Weight	BSOPSPL003R0 8	90.5		1.00	%	1x	8123047	09/23/08 14:28	09/24/08 00:00	
BRI0323-02	(New-Wilkins Rd-South)	Soil			Sam	pled: 09/1	8/08 09:30			
Dry Weight	BSOPSPL003R0 8	73.1		1.00	%	1x	8123047	09/23/08 14:28	09/24/08 00:00	
BRI0323-03	(New-MW16-South)	Soil			Sam	pled: 09/1	8/08 10:15			
Dry Weight	BSOPSPL003R0	80.4		1.00	%	1x	8123047	09/23/08 14:28	09/24/08 00:00	

TestAmerica Seattle

Kate Haney, Project Manager





**Sound Environmental Strategies** 

**Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 09/26/08 15:11 Terry Montoya

Gasoline	e Hydrocarbons (E	<b>Benzene to Naphthalene) a</b>	and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results
			TestAmerica Seattle
QC Batch: 8	8124014	Soil Preparation Method:	EPA 5030B (P/T)

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (8I24014-BLK1)								Extr	acted:	09/24/08 10	0:04			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		5.00	mg/kg wet	lx							09/24/08 13:54	
Benzene	"	ND		0.0300	"	"							"	
Toluene	"	ND		0.0500	"	"							"	
Ethylbenzene	"	ND		0.0500	"	"							"	
Xylenes (total)	"	ND		0.100	"	"							"	
Surrogate(s): 4-BFB (FID)		Recovery: 8-	4.2%	L	imits: 50-150%	6 "							09/24/08 13:54	
4-BFB (PID)		1	08%		63-1509	% "							"	

LCS (8124014-BS1) Extracted: 09/24/08 10:04												
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	47.5		5.00 mg/kg wet	1x		50.0	94.9%	(75-125)	 	09/24/08 14:24	
Surrogate(s): 4-BFB (FID)		Recovery:	99.3%	Limits: 50-150%	"						09/24/08 14:24	

LCS (8I24014-BS2)							Ext	racted:	09/24/08 10:0	04	
Benzene	NWTPH-Gx/ 8021B	1.47		0.0300	mg/kg wet	1x	 1.50	98.0%	(75-125)		 09/24/08 14:54
Toluene	"	1.50		0.0500	"	"	 "	99.8%	"		 "
Ethylbenzene	"	1.48		0.0500	"	"	 "	99.0%	"		 "
Xylenes (total)	"	4.39		0.100	"	"	 4.50	97.5%	"		 "
Surrogate(s): 4-BFB (PID)		Recovery:	110%	I	imits: 63-150%	% "					09/24/08 14:54

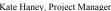
Duplicate (8I24014-DUP1)		QC Source	e: BRI0323-0	1		Exti	Extracted: 09/24/08 10:04						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		4.86	mg/kg dry	1x	ND				1.50% (40)	09/24/08 16:27	
Benzene	"	ND		0.0292	"	"	ND				NR (35)	"	
Toluene	"	ND		0.0486	"	"	ND				NR "	"	
Ethylbenzene	"	ND		0.0486	"	"	ND				87.4% "	"	R4
Xylenes (total)	"	ND		0.0973	"	"	ND				88.1% "	"	R4
Surrogata(s): 4 PEP (EID)		Paganami: 07	60/.	1	imita: 50 1500	<i>.</i> "						00/24/08 16:27	

, ( ,						
Surrogate(s): 4-	-BFB (FID)	Recovery: 97.6%	Limits: 50-150%	"		09/24/08 16:27
4-	-BFB (PID)	120%	63-150%	"		"
Matrix Spiles (91	124014 MS1)		OC Source: RRI0323-01		Extracted: 09/24/08 10:04	

Matrix Spike (8I24014-MS1)				QC Source: BRI0323-01			Extracted: 09/24/08 10:04	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	49.5		4.86 mg/kg dry	1x	4.67	43.4 103% (60-175) 09/24/08 18:27	
Surrogate(s): 4-BFB (FID)		Recovery:	108%	Limits: 50-150%	"		09/24/08 18:27	

Matrix Spike (8I24014-MS2)			QC Source	e: BRI0323-0	1		Extr	acted:	09/24/08 10:0	14	
Benzene	NWTPH-Gx/ 8021B	1.43	 0.0292	mg/kg dry	1x	ND	1.30	110%	(60-160)		 09/24/08 18:57
Toluene	"	1.46	 0.0486	"	"	ND	"	112%	"		 "
Ethylbenzene	"	1.45	 0.0486	"	"	0.0108	"	110%	"		 "
Xylenes (total)	"	4.27	 0.0973	"	"	0.0348	3.91	108%	"		 "

TestAmerica Seattle









Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya09/26/08 15:11

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 8I24014 Soil Preparation Method: EPA 5030B (P/T)

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

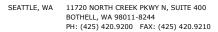
Matrix Spike (8124014-MS2) QC Source: BRI0323-01 Extracted: 09/24/08 10:04

Surrogate(s): 4-BFB (PID) Recovery: 125% Limits: 63-150% 1x 09/24/08 18:57

TestAmerica Seattle

Kate Haney, Project Manager







3R08

Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya09/26/08 15:11

	Physical Paran	neters by A			Methods ca Seattle		oratory (	Quality	Con	trol Res	ults			
QC Batch: 8123047	Soil Prep	aration Met	hod: Dry V	Veight										
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (8I23047-BLK1)								Ext	racted:	09/23/08 1	4:28			
Dry Weight	BSOPSPL00	99.8		1.00	%	1x							09/24/08 00:00	

TestAmerica Seattle

Kate Haney, Project Manager









Sound Environmental Strategies **Nordic Properties - Port Orchard** Project Name:

0644-001-01 Report Created: 2400 Airport Way South, Suite 200 Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 09/26/08 15:11

### **Notes and Definitions**

### Report Specific Notes:

O8 Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.

R4 Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

ZXDue 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

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries). RPD

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table. MRL

METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. MDL\* \*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 -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits

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 Seattle



# **TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Tacoma 5755 8th Street E. Tacoma, WA 98424 Tel. 253-922-2310 Fax 253-922-5047 www.testamericainc.com

# Chain of Custody Record ゟみノのみろ

Special Instructions/ Conditions of Receipt Chain of Custody Number 2780 ð 6 38 Page Analysis (Attach list if more space is needed) 9/19/26 स्याप प्रकार 7 ナア ヤ ナ Zec 326 1967 \oAnZ HO<sub>6</sub>V Containers & Preservatives HOPN ЮH EONH Telephone Number (Area Code)/Fax Number TERPI MAIDER ₽0SZH nubres × 35 X X X 110S Carrier/Waybill Number Matrix 200 300 ·pəs snoənby Project Manager Site Contact ıiΑ 248 8 F Time 9/18/06 NARDIC PROPERTIES PART OFCHIND, WA Date 45134 \_ Sample I.D. and Location/Description (Containers for each sample may be combined on one line) HIND HAN TONGE WAY WITH NEW - WICKINSPO - SOUTH NOV - LICHNORD - NEPTH NEW-MWile-SUTH Contract/Purchase Order/Quote No. Project Name and Location (State, SET THE

Comments							
DISTRIBUTION:	: WHITE	HITE - Stays with the Samples; CAN	IARY - Returned t	to Client with Report;	PINK - Fie	14 Сору	

(A fee may be assessed if samples are retained longer than 1 month)

Months

XDisposal By Lab

☐ Unknown ☐ Return To Client

☐ Poison B

Skin Irritant

☐ Flammable

☐ Non-Hazard

X Yes \( \triangle No Cooler Temp:\)
Turn Around Time Required (business days)

Cooler

Possible Hazard Identification

□ Other

☐ 15 Days

X 10 Days

☐ 5 Days

☐ 48 Hours

☐ 24 Hours

1. Relinquished By

2. Relinquished By,

3. Relinquished By

QC Requirements (Specify)

1. Received By

35

2. Received By

Ime

3. Received By

Time

Date

Sample Disposal

19:00

Time

Time

Date

Page Time & Initials:_			-	Circle O or N
_				(If Y, see other side)
	TEST AMERICA	SAMPLE RECEIPT		$\sim$ 0.0
Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled		
Date: 9/19	Date: 4 20	Date: 9 W	Work Order No	BR10323
Time: 10:00	Time: 4.34	Time: 10:16	Client:	
Initials:	Initials: <u></u>	Initials: <b>W</b>	Project:	
Container Type:	CO	C Seals:	Packing Material	·
Cooler	Ship Contair	nerSign By	Bubble Bags	Styrofoam
Box	On Bottles	Date	Foam Packs	
None/Other		None	(None/Other	
Deficience - 4			Received Via: Bill#	
Refrigerant: Gei Ice Pack			Fed Ex	
Loose Ice			UPS	TA Courier
None/Other			DHL	Mid Valley
			Senvoy	TDP
			GS	Other
Cooler Temperature (	(R): 見入°C Plastic (	Glass (Frozen filters, Te	edlars and aqueous Meta	als exempt)
Temperature Blank?	°C or NA	one)	Trip Blank´	? Y or (N) or (NA)
BP, OPLC,ARCO-Ten (initial/date/time):	nperature monitoring e	every 15 minutes:		
Sample Containers:	<u>ID</u>			<u>ID</u>
Intact?	Or N	Metals Preserv		9
Provided by TA? $$ C	9 p Q or O	rima Client QAPP P	$\wedge$	(A)
Correct Type?	, (Y) or N	Adequate Volu (for tests requested		
#Containers match C0	DC? $(N)$ or N	Water VOAs: }	Headspace? Y or N or	(A)
Ds/time/date match C	OC?(?) or N	Comments:	. /	7
Hold Times in hold?	⊙ or N		nate are from	/acoma
PROJECT MANAGE	MENT	,	•	
is the Chain of Custoc	ly complete?		Y or N If N, circle the i	tems that were incomplete
Comments,Problems_				
	,,,,,			
Total access set up? Has client been contacted in	egarding non-conformances	· · ??	Y or N : Y or N : !fY,/_	
PM Initials:	Date:	Time:	Date	Time

Paperwork to PM – Date: \_\_\_\_\_ Time: \_\_\_\_

Non-Conformances?

## NOTIFICATION OF DISCREPANCY

DATE: 9/19 TIME: /0:00 PM:	sc initials:
Rush/Short Hold?	
☐ Project Not Set Up in ELM ☐ New Clic ☐ Analysis Requested on COC – Not Listed for	ent
<ul> <li>□ PM To Add Analysis:</li> <li>□ Clarification of Analysis:</li> <li>□ Hold Time Expired: (Analysis)</li> <li>□ Turnaround Time Not Checked:</li> <li>□ Did Not Receive Sample(s) Listed on COC:</li> </ul>	
Received Extra Sample(s) Not Listed on CO	
□ Sample Description(s) or Date/Time Sample	d Do Not Match COC:
☐ Improper Preservative For method: ☐ Sample Received Broken: ☐ Insufficient Sample Volume: ☐ Sample preserved upon receipt:	
Temperature Outside recommended range (  Received on-ice within 4 hours of collection acceptable.  Other:  Am are from another client,	ion, temperature between ambient to 2°C
PROJECT MANAGER RESOLUTION:	(Date & Time when returned to SC)
Approval By:	Date: Time:





January 08, 2009

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 12/31/08 11:45. The following list is a summary of the Work Orders contained in this report, generated on 01/08/09 15:29.

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

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BSA0005	Nordic Properties - Port Orcha	0644-001-01

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 01/08/09 15:29

ANALYTICAL I	REPORT F	OR SAMPLES
--------------	----------	------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW16-20081230	BSA0005-01	Water	12/30/08 13:08	12/31/08 11:45

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

Carlling





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244

PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020 Project Name: Nordic Properties - Port Orchard

Project Number: 0644-001-01
Project Manager: Terry Montoya

Report Created: 01/08/09 15:29

### **Analytical Case Narrative**

TestAmerica - Seattle, WA

### **BSA0005**

SAMPLE RECEIPT

The samples were received 12/31/08 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 5.9 degrees Celsius.

PREPARATIONS AND ANALYSIS

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

The detection of Benzene in sample BSA0005-01 was confirmed by EPA 8260B analysis.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 01/08/09 15:29

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSA0005-01 (MW16-20081230	)	Wa	ter		Sampl	led: 12/3	30/08 13:08			
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND		50.0	ug/l	1x	9A04004	01/04/09 12:16	01/04/09 16:50	
Benzene	"	1.14		0.500	"	"	"	"	"	
Toluene	"	ND		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			95.5%		70 - 145 %	"			"	
4-BFB (PID)			103%		80 - 130 %	"			"	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 01/08/09 15:29

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 9A04004	Water P	Preparation	Method: H	EPA 5030B	3 (P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (9A04004-BLK1)								Ext	racted:	01/04/09 12	:16			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x							01/04/09 14:09	
Benzene	"	ND		0.500	"	"							"	
Toluene	"	ND		0.500	"	"							"	
Ethylbenzene	"	ND		0.500	"	"							•	
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	99.3% 102%	Lir	mits: 70-145% 80-130%	"							01/04/09 14:09	
LCS (9A04004-BS1)								Ext	racted:	01/04/09 12	:16			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	972		50.0	ug/l	1x		1000	97.2%	(80-120)			01/04/09 14:41	
Surrogate(s): 4-BFB (FID)		Recovery:	104%	Lin	mits: 70-145%	"							01/04/09 14:41	
LCS (9A04004-BS2)								Ext	racted:	01/04/09 12	:16			
Benzene	NWTPH-Gx/ 8021B	30.4		0.500	ug/l	1x		30.0	102%	(80-125)			01/04/09 15:13	
Toluene	"	29.7		0.500	"	"		"	99.0%	(80-120)			"	
Ethylbenzene	"	30.1		0.500	"	"		"	100%	(80-125)			"	
Xylenes (total)	"	89.1		1.00	"	"		90.0	99.0%	(75-120)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	105%	Lin	nits: 80-130%	"							01/04/09 15:13	
Duplicate (9A04004-DUP1)				QC Source:	: BSA0004-01			Ext	racted:	01/04/09 12	:16			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND				NR	(25)	01/04/09 16:18	
Benzene	"	ND		0.500	"	"	ND				NR	"		
Toluene	"	ND		0.500	"	"	ND				39.7%	"	"	R
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				35.8%	"	"	R
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	100% 102%	Lin	nits: 70-145% 80-130%	"							01/04/09 16:18	
Duplicate (9A04004-DUP2)				QC Source:	: BSA0005-01			Ext	racted:	01/04/09 12	:16			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND				NR	(25)	01/04/09 17:22	
Benzene	"	1.07		0.500	"	"	1.14				6.24%	"	"	
Toluene	"	ND		0.500	"	"	ND				11.1%	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	93.7% 101%	Lin	nits: 70-145% 80-130%	"							01/04/09 17:22	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager







BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 01/08/09 15:29

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 9A04004	Water Pi	eparation M	ethod: EP.	A 5030B	(P/T)									
analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes

•							Result	Amt	REC		RPD	`	, .
Matrix Spike (9A04004-MS1)				QC Source:	BSA0004-0			Ext	racted:	01/04/09 12:	16		
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1030		50.0	ug/l	1x	ND	1000	103%	(70-135)			01/04/09 18:26
Surrogate(s): 4-BFB (FID)		Recovery:	105%	Lin	nits: 70-145%	"							01/04/09 18:26
Matrix Spike (9A04004-MS2)				QC Source:	BSA0005-0			Ext	racted:	01/04/09 12:	16		
Benzene	NWTPH-Gx/	33.6		0.500	ug/l			20.0	1000/	((0.125)			01/04/00 10 50
	8021B			0.500	ug/1	1x	1.14	30.0	108%	(60-135)			01/04/09 18:59
Toluene	8021B	31.3		0.500	ug/i	IX	0.102	30.0	108%	(65-135)			"
Toluene Ethylbenzene		31.3 31.9								, ,			

4-BFB (PID) Limits: 80-130% 01/04/09 18:59 Surrogate(s): Recovery:

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210

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Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya01/08/09 15:29

### **CERTIFICATION SUMMARY**

### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington			
NWTPH-Gv/8021B	Water	•	Y	•	•	

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N. SUITE 400 BOTHFIL. WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

Project Number: Project Manager: Terry Montoya

0644-001-01

Report Created: 01/08/09 15:29

### **Notes and Definitions**

### Report Specific Notes:

R4

Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

### <u>Laboratory Reporting Conventions:</u>

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

Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight. dry

Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported wet

on a Wet Weight Basis.

RPD RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).

METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table. MRL

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.

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 -Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and Limits percent solids, where applicable.

Electronic Signature

Dil

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 Seattle

Curtis D. Armstrong, Project Manager



### Seattle

11720 North Creek Parkway N Suite 400

Bothell, WA 98011 phone 425.420.9200 fax 425.420.9210

### **Chain of Custody Record**

BRABSA0005

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

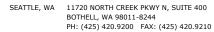
Client Contact	Project Ma	D D A CO P I				Cita	Conta	net:					Date:					 COC No:	
	Tel/Fax:	anager:					Cont						Carrie					 of	COCs
Sound Environmental Strategies	Tel/Fax:	A a alamia T		Times		Lau	Cont	act.			<del></del>	_	Calik	1.		T-		 Job No.	cocs
2400 Airport way S			urnaround					1		li	ļ					1		, and the	
Seattle Wa, 98134			ork Days (W			4 1					İ								
(206) 306-1900 Phone		AT if different	from Below																
(206) 306-1907 FAX		:	2 weeks					1										SDG No.	
Project Name: Nordic properties		1	week					1			İ							j	
Site: Port Orchard: Bay St.	7 🗆		2 days					1 1			Ì			1 1	- 1			1	
P O # 0644-001-01			l day				*						- 1						
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sam	NWTPH-G BTEX											Sample	Specific Notes:
MW16-20081230	12/30/2008	1308	40mlVOA	w	4	4 x	x x											-0	1
						П	T												
						Ш					$oldsymbol{\perp}$								
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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=Na	OH; 6= Other	r								1 1							1		
Possible Hazard Identification Non-Hazard Flammable Skin britant	Poison E		Unknown	;					<b>posal</b> n To C					<b>sed if</b> al By L			re re	d longer than 1 n	nonth) Months
Special Instructions/QC Requirements & Comments:	1 013011 1	'·	JIRHOWI					rtotar		om			ПОРОО	а, Бу <u>г</u>		<del></del>			Monard
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Relinquished by:	Company:			Date/Ti	me:	F	Receiv	ed by:	, 1.	1.77	wer	,		Com	pany:	ost	170	 Date/Time: 12-31-08	/1145
Relinquished by:	Company:			Date/Ti	me:	F	Receiv	ed by:	<u> </u>	186	W	<u></u>	<del></del>		pany:	ULL	14	Date/Time:	(1177
											*	•							
Relinquished by:	Company:			Date/Ti	me:	Ī	Receiv	ed by:						Com	pany:			Date/Time:	

Page Time & Initials:				Circle Y or N
	TEST AMEDICA S	AMBLE DECEIDE C	•	ee other side)
	2	AMPLE RECEIPT CI		
Received By: applies to remp at receipt)	Logged-in By:	Unpacked/Labeled By	: Cooler ID:	
Date: 12-31-08	Date: 01-02-09	Date: 01-02	Work Order No. BSA 000	05
Time: <u>1145</u>	Time: <u>154</u> 1	Time: 1541	Client:	
nitials: <u>C</u> W	Initials: <u>CW</u>	Initials: <u>CW</u>	Project:	
Container Type:		Seals:	Packing Material	<u> </u>
X Cooler	Ship Container	Sign By	X Bubble Bags	_ Styrofoam
Box	On Bottles	Date	Foam Packs	
None/Other	<u></u>	None	None/Other	<del></del>
Refrigerant:			Received Via: Bill#	
Gel Ice Pack			Fed Ex X Client	
X Loose ice			UPS TA Co	
None/Other			DHL Mid Va	illey
			Senvoy TDP	
	5.0		GS Other_ ars and aqueous Metals exen	
	mperature monitoring eve	-	Trip Blank? Y or	N) or (NA)
Sample Containers:	ID		-ID	
ntact?	_	Metals Preserved	1? Y or N or (NA)	
Provided by TA?	Y or (N)		served? Y or N or NA	
Correct Type?	(Y) or N	Adequate Volume	e?	-10000177
#Containers match C	OC? (Y) or N	(for tests requested) Water VOAs: He	adspace? Y or Nor NA	
	~			
Hold Times in hold?				
PROJECT MANAGE	MENT			
s the Chain of Custo	dy complete?		Y or N If N, circle the items that	were incomplete
Comments, Problems				
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Total access set up?	regarding non-conformances?		Y or N Y or N if Y,/	
		Time:	Date Time	

Paperwork to PM – Date:\_\_\_\_\_ Time:\_\_\_\_

TAT: \_\_\_\_\_

Non-Conformances?





March 24, 2009

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 03/10/09 12:30. The following list is a summary of the Work Orders contained in this report, generated on 03/24/09 09:39.

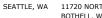
If you have any questions concerning this report, please feel free to contact me.

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BSC0094	Nordic Properties - Port Orcha	0644-001-01

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: 03/24/09 09:39 Terry Montoya

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW03-20090309	BSC0094-01	Water	03/09/09 15:49	03/10/09 12:30
MW16-20090309	BSC0094-02	Water	03/09/09 15:43	03/10/09 12:30

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





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PH: (425) 420.9200 FAX: (425) 420.9210

Report Created:

03/24/09 09:39



**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020 Project Name: Nordic Properties - Port Orchard

Project Number: 0644-001-01
Project Manager: Terry Montoya

### **Analytical Case Narrative**

TestAmerica - Seattle, WA

### **BSC0094**

SAMPLE RECEIPT

The samples were received 03/10/09 by TestAmerica - Seattle. The temperature of the samples at the time of receipt was 7.1 degrees Celsius.

PREPARATIONS AND ANALYSIS

Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021

The Benzene detection for Sample BSC0094-02 (MW16-10090309) was confirmed via EPA method 8260B.

No additional anomalies, discrepancies, or issues were associated with sample preparation, analysis and quality control other than those already qualified in the data and described in the Notes and Definitions page at the end of the report.

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





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BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 03/24/09 09:39

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSC0094-02 (MW16-20090309)	)	Wa	ter		Sampl	ed: 03/0	09/09 15:43		•	
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND		50.0	ug/l	1x	9C11008	03/11/09 07:35	03/11/09 19:45	
Benzene	"	1.93		0.500	"	"	"	"	"	
Toluene	"	ND		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			88.5%		70 - 145 %	"			"	
4-BFB (PID)			103%		80 - 130 %	"			"	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





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**Sound Environmental Strategies** 

Seattle, WA/USA 98134-2020

2400 Airport Way South, Suite 200

**Nordic Properties - Port Orchard** Project Name:

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 03/24/09 09:39

### **BTEX Confirmation by EPA Method 8260B**

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSC0094-02	(MW16-20090309)		Wa	ter		Sampl	ed: 03/0	9/09 15:43			
Benzene		EPA 8260B	2.13		0.500	ug/l	1x	9C13023	03/13/09 15:15	03/13/09 22:27	
Surrogate(s):	1,2-DCA-d4			93.5%		80 - 120 %	"			"	
	Toluene-d8			98.9%		80 - 120 %	"			"	
	4-BFB			99.8%		80 - 120 %	"			"	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





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**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

**Nordic Properties - Port Orchard** Project Name:

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 03/24/09 09:39

### Anions by EPA Method 300.0

TestAmerica Seattle

Analyte		Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSC0094-01	(MW03-20090309)		Wa	iter		Sam	pled: 03/0	9/09 15:49			
Sulfate		EPA 300.0	0.910		0.400	mg/l	1x	9C11015	03/11/09 10:21	03/11/09 19:09	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 Project Number: 0644-001-01 Report Created: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 03/24/09 09:39

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 9C11008	Water I	Preparation	n Method:	EPA 5030B	3 (P/T)									
Analyte	Method	Result	MD	L* MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (9C11008-BLK1)								Exti	racted:	03/11/09 07	:35			
Gasoline Range Hydrocarbons	NWTPH-Gx/	ND		50.0	ug/l	1x							03/11/09 09:45	
Benzene	8021B	ND		0.500	"								"	
Toluene	"	ND		0.500	"								"	
Ethylbenzene	"	ND		0.500	"								"	
Xylenes (total)	"	ND		1.00	"								"	
Surrogate(s): 4-BFB (FID)		Recovery:	86.9%	Lii	nits: 70-145%	, "							03/11/09 09:45	
4-BFB (PID)			101%		80-1309	6 "							"	
LCS (9C11008-BS1)								Exti	acted:	03/11/09 07	:35			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1000		50.0	ug/l	1x		1000	100%	(80-120)			03/11/09 10:17	
Surrogate(s): 4-BFB (FID)	00215	Recovery:	98.5%	Lii	mits: 70-145%	, "							03/11/09 10:17	
LCS (9C11008-BS2)										03/11/09 07	:35			
Benzene	NWTPH-Gx/ 8021B	30.7		0.500	ug/l	1x		30.0	102%	(80-125)			03/11/09 10:50	
Toluene	"	30.1		0.500	"			"	100%	(80-120)			"	
Ethylbenzene	"	30.2		0.500	"	"		"	101%	(80-125)			"	
Xylenes (total)	"	89.4		1.00	"	"		90.0	99.3%	(75-120)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	101%	Lii	nits: 80-130%	"							03/11/09 10:50	
Duplicate (9C11008-DUP1)				QC Source	: BSC0091-0	1		Exti	racted:	03/11/09 07	:35			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	lx	ND	-	-		NR	(25)	03/11/09 12:12	
Benzene	8021B	ND		0.500	"		ND				NR	"	"	
Toluene	"	ND		0.500	"	"	ND				NR	"	"	
Ethylbenzene	"	ND		0.500	"		ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				69.4%	. "	"	R
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	89.7% 102%	Lii	nits: 70-145% 80-130%								03/11/09 12:12	
Duplicate (9C11008-DUP2)				QC Source	: BSC0091-0	2		Exti	racted:	03/11/09 07	:35			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND				NR	(25)	03/11/09 17:35	
Benzene	"	ND		0.500	"	"	ND				NR	"	"	
Toluene	"	ND		0.500	"	"	ND				NR	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				17.6%	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	89.0% 103%	Lii	nits: 70-145% 80-130%								03/11/09 17:35	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





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**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

QC Batch: 9C11008

Surrogate(s): 4-BFB (FID)

**Nordic Properties - Port Orchard** Project Name:

0644-001-01 Project Number: Project Manager: Terry Montoya

Report Created: 03/24/09 09:39

03/11/09 14:54

### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

Water Preparation Method: EPA 5030B (P/T)

Recovery: 94.5%

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Matrix Spike (9C11008-MS1)				QC Source:	BSC0091-0	1		Extr	acted:	03/11/09 07	7:35			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1150		50.0	ug/l	1x	ND	1000	115%	(70-135)			03/11/09 14:22	
Surrogate(s): 4-BFB (FID)		Recovery:	99.9%	Lim	its: 70-145%	"							03/11/09 14:22	

Matrix Spike (9C11008-MS2)				QC Source:	BSC0091	-02		Ext	racted:	03/11/09 07:3	35	
Benzene	NWTPH-Gx/ 8021B	33.6		0.500	ug/l	1x	ND	30.0	112%	(60-135)		 03/11/09 21:22
Toluene	"	33.0		0.500	"	"	ND	"	110%	(65-135)		 "
Ethylbenzene	"	33.6		0.500	"	"	ND	"	112%	"		 "
Xylenes (total)	"	98.5		1.00	"	"	0.254	90.0	109%	(65-130)		 "
Surrogate(s): 4-BFB (PID)		Recovery: 1	102%	Lin	nits: 80-130	0% "						03/11/09 21:22

Matrix Spike Dup (9C11008-MSD1)					BSC0091-0	1						
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1030		50.0	ug/l	1x	ND	1000	103%	(70-135)	11.4% (25)	03/11/09 14:54

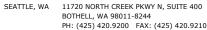
Limits: 70-145%

Matrix Spike Dup (9C11008-MSD2)			QC Source: BSC0091-02 Extracted: 03/11/09 07:35								:35			
Benzene	NWTPH-Gx/ 8021B	33.5		0.500	ug/l	1x	ND	30.0	112%	(60-135)	0.304% (25)	03/11/09 21:54		
Toluene	"	32.8		0.500	"	"	ND	"	109%	(65-135)	0.745% "	"		
Ethylbenzene	"	33.2		0.500	"	"	ND	"	111%	"	1.05% "	"		
Xylenes (total)	"	97.6		1.00	"	"	0.254	90.0	108%	(65-130)	0.961% "	"		
Surrogate(s): 4-BFB (PID)		Recovery:	102%	Lin	nits: 80-13	0% "						03/11/09 21:54		

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





**Nordic Properties - Port Orchard** 



**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya03/24/09 09:39

Project Name:

### BTEX Confirmation by EPA Method 8260B - Laboratory Quality Control Results TestAmerica Seattle QC Batch: 9C13023 Water Preparation Method: EPA 5030B Source Spike Analyte Method Result MDL\* MRL Units Dil (Limits) (Limits) Analyzed RPD REC Blank (9C13023-BLK1) Extracted: 03/13/09 15:15 EPA 8260B ND 0.500 03/13/09 16:53 Benzene 1x ug/l Surrogate(s): 1,2-DCA-d4 Recovery: 97.9% Limits: 80-120% 03/13/09 16:53 80-120% Toluene-d8 99.4% 4-BFB 97.8% 80-120% Extracted: 03/13/09 15:15 LCS (9C13023-BS1) Benzene EPA 8260B 42.4 0.500 ug/l (80-120) 03/13/09 15:26 Surrogate(s): 1,2-DCA-d4 Recovery: 92.0% Limits: 80-120% 03/13/09 15:26 Toluene-d8 101% 80-120% 4-BFB 102% 80-120% Matrix Spike (9C13023-MS1) QC Source: BSC0118-05 Extracted: 03/13/09 15:15 Benzene EPA 8260B 52.9 0.500 ug/l 1x8.71 40.0 111% (75-130)03/13/09 15:57 03/13/09 15:57 Limits: 80-120% Surrogate(s): 1,2-DCA-d4 Recovery: 93.5% 102% 80-120% Toluene-d8 99.1% 80-120% 4-BFB QC Source: BSC0118-05 Extracted: 03/13/09 15:15 Matrix Spike Dup (9C13023-MSD1) Benzene EPA 8260B 52.1 0.500 ug/l 8.71 (75-130) 1.66% (25) 03/13/09 16:23 1,2-DCA-d4 91.0% Limits: 80-120% 03/13/09 16:23 Surrogate(s): Recovery: Toluene-d8 102% 80-120%

80-120%

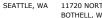
98.9%

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

4-BFB





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

Project Number: Project Manager:

0644-001-01 Terry Montoya

Report Created: 03/24/09 09:39

### Anions by EPA Method 300.0 - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 9C11015	Water P	reparation M	lethod: G	eneral Pre	paration									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (9C11015-BLK1)								Ext	racted:	03/11/09 10	:21			
Sulfate	EPA 300.0	ND		0.400	mg/l	1x							03/11/09 13:41	
LCS (9C11015-BS1)								Ext	racted:	03/11/09 10	:21			
Sulfate	EPA 300.0	5.98		0.400	mg/l	1x		6.00	99.7%	(90-110)			03/11/09 13:57	
Duplicate (9C11015-DUP1)				QC Source:	BSC0088-	02		Ext	racted:	03/11/09 10	:21			
Sulfate	EPA 300.0	30.2		4.00	mg/l	10x	29.7				1.67%	(20)	03/11/09 16:49	
Matrix Spike (9C11015-MS1)				QC Source:	BSC0088-	02		Ext	racted:	03/11/09 10	:21			
Sulfate	EPA 300.0	35.7		4.00	mg/l	10x	29.7	6.00	100%	(80-120)			03/11/09 17:04	

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

Carlling





VA 11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya03/24/09 09:39

### **CERTIFICATION SUMMARY**

### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington	
EPA 300.0	Water	X	X	
EPA 8260B	Water	X	X	
NWTPH-Gx/8021B	Water		X	

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericalnc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

TestAmerica Seattle

Curtis D. Armstrong, Project Manager





11720 NORTH CREEK PKWY N, SUITE 400 BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



Sound Environmental Strategies Project Name:

2400 Airport Way South, Suite 200 Project Number: Seattle, WA/USA 98134-2020 Project Manager **Nordic Properties - Port Orchard** 

Project Number:0644-001-01Report Created:Project Manager:Terry Montoya03/24/09 09:39

### **Notes and Definitions**

### Report Specific Notes:

R4 - Due to the low levels of analyte in the sample, the duplicate RPD calculation does not provide useful information.

### **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.

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 - Reporting lir Limits percent solid

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 Seattle

Curtis D. Armstrong, Project Manager



# <u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
11922 E. First Ave, Spokane, WA 99206-5302
9405 SW Nimbus Ave, Beaverton, OR 97008-7145

1-8244 425-420-9200 FAX 420-9210 5-5302 509-924-9200 FAX 924-9290 8-7145 503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-92

TA WO ID Turnaround Requests less than standard may incur Rush Charges 5 10-<1 DATE: 3/10/04 TIME: 1330 DATE: | 5 | 4 | 3 | 2 | 1 | <1 | <1 | Work Order #: 85C0094TURNAROUND REQUEST 7 5 4 3 2 Etroleum Hydrocarbon Analyses LOCATION/ COMMENTS TEMP: Organic & Inorganic Analyses in Business Days \* # OF CONT. OTHER 2 0/3 MATRIX (W, S, O) ζ 3 Francisco Luna, J. RECEIVED BY: CHAIN OF CUSTODY REPORT INVOICE TO: Tony mertey PRINT NAME: RECEIVED BY: PRINT NAME: P.O. NUMBER: 0644-003-0 REQUESTED ANALYSES PRESERVATIVE DATE: 03/40/00 TIME: 1230 DATE: TIME 3 4102 > 545 XYIS 1543 PHONE: 206-306-1908 FAX: 206-306-1907. 6451 populity - the opposed REPORT TO: 2460 AN PORT WAY S ADDRESS: SAMPLING DATE/TIME 2 mw 6-20090309 37/09/09 03/00/60 PROJECT NUMBER: SQ SIM - CO3-0) PRINT NAME: FOND THEY SAY MWCZ-2009CZOD PROJECT NAME: Nord 1C SAMPLED BY: (MT CLIENT SAMPLE IDENTIFICATION ADDITIONAL REMARKS: CLIENT: G65 RELEASED BY: RELEASED BY: PRINT NAME:

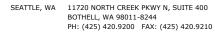
TAL-1000(0408)

Page Time & Initials:	· 			Circle or N
	TEST AMERICA S	AMPLE RECEIPT CI	HECKLIST	(If Y, see other side)
Received By: (applies to temp at receipt)	Logged-in By:	Unpacked/Labeled By	r: Cooler ID:	
Date: 3/10/09	Date: 3/10/04	Date: 3/10/09	Work Order No	50094
	Time: 1254	Time: 1301		
	Initials: F.L.	Initials: <u>F_L</u> .		
Container Type:	COCS	Seals:	Packing Material:	
Cooler	Ship Container	Sign By	Bubble Bags	Styrofoam
Box	On Bottles	Date	Foam Packs	
X None/Other		None	None/Other	
Refrigerant: Gel Ice Pack	Soil Stir Placed	Bars/Encores: in freezer #46:	Received Via: Bill#: Fed ExX	_ Client
Loose Ice	Y or N	or 🐼	UPS	_ TA Courier
X None/Other	lnitial/d	ate/time	DHL	_ Mid Valley
			Senvoy	_TDP
			GS	_ Other
Cooler Temperature ( <u>IR</u>	): 7.1 °C Plastic Gl	ass (Frozen filters, Ted	lars and aqueous Me	tals exempt)
Temperature Blank?	°C or NA comment	S	Trip Blank	? Y or N or NA
BP, OPLC,ARCO-Temp	erature monitoring eve	ry 15 minutes:		, 
Sample Containers:	<u>ID</u>			ID
Intact?		Metals Preserved	d? Y or N o	r NA
Provided by TA?	Ø or N			r NA
Correct Type?	Ø or N	Adequate Volum	e? (Y/or N	
#Containers match CO0	C? For N	(for tests requested) Water VOAs: He	eadspace? Of or No	r NA 02-D
IDs/time/date match CO	C? (V or (V)	Comments:		
Hold Times in hold?				
PROJECT MANAGEME	ENT			
Is the Chain of Custody	complete?		Y or N If N, circle the	e items that were incomplete
Comments,Problems				
	·			
Total access set up? Has client been contacted reg	arding non-conformances?		Y or N Y or N If Y,/	
PM Initials:	_	Time:	Date	e Time

Paperwork to PM – Date:\_\_\_\_\_ Time:\_\_\_\_

TAT: \_\_\_\_\_

Non-Conformances?





June 16, 2009

Terry Montoya Sound Environmental Strategies 2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

RE: Nordic Properties - Port Orchard

Enclosed are the results of analyses for samples received by the laboratory on 06/09/09 16:00. The following list is a summary of the Work Orders contained in this report, generated on 06/16/09 14:42.

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

Work Order	<u>Project</u>	<u>ProjectNumber</u>
BSF0100	Nordic Properties - Port Orcha	0644-001-01

TestAmerica Seattle

Curtis D. Armstrong, 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.





11720 NORTH CREEK PKWY N, SUITE 400

BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies Nordic Properties - Port Orchard** Project Name:

2400 Airport Way South, Suite 200 0644-001-01 Report Created: Project Number: Seattle, WA/USA 98134-2020 Project Manager: Terry Montoya 06/16/09 14:42

ANALYTICA	L REPORT	FOR SAMPLI	2.5

Sample ID	Laboratory ID	Matrix	<b>Date Sampled</b>	<b>Date Received</b>
MW16-20090608	BSF0100-01	Water	06/08/09 14:46	06/09/09 16:00

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

Carlling

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BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

Project Number: Project Manager:

0644-001-01 Terry Montoya

Report Created: 06/16/09 14:42

#### Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B

TestAmerica Seattle

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BSF0100-01 (MW16-20090608)	)	Wa	ter		Sampl	ed: 06/0	08/09 14:46			
Gasoline Range Hydrocarbons	NWTPH-Gx/802 1B	ND		50.0	ug/l	1x	9F11016	06/11/09 13:02	06/12/09 21:40	
Benzene	"	0.846		0.500	"	"	"	"	"	
Toluene	"	ND		0.500	"	"	"	"	"	
Ethylbenzene	"	ND		0.500	"	"	"	"	"	
Xylenes (total)	"	ND		1.00	"	"	"	"	"	
Surrogate(s): 4-BFB (FID)			83.6%		70 - 145 %	"			"	
4-BFB (PID)			94.1%		80 - 130 %	"			"	

TestAmerica Seattle

Curtis D. Armstrong, 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,  $without \ the \ written \ approval \ of \ the \ laboratory.$ 





Sound Environmental Strategies Project Name: Nordic Properties - Port Orchard

2400 Airport Way South, Suite 200Project Number:0644-001-01Report Created:Seattle, WA/USA 98134-2020Project Manager:Terry Montoya06/16/09 14:42

# Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results TestAmerica Seattle

QC Batch: 9F11016	Water I	Preparation	n Method: H	PA 5030B	(P/T)									
Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits	) Analyzed	Notes
Blank (9F11016-BLK1)								Extr	acted:	06/11/09 13	:02			
Gasoline Range Hydrocarbons	NWTPH-Gx/	ND		50.0	ug/l	1x							06/12/09 18:57	
Benzene	8021B	ND		0.500	"	"							"	
Toluene	"	ND		0.500	"	"								
Ethylbenzene	"	ND		0.500	"	"							"	
Xylenes (total)	"	ND		1.00	"	"							"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	83.6% 93.1%	Lin	nits: 70-145% 80-130%	"							06/12/09 18:57	
LCS (9F11016-BS1)								Extr	acted:	06/11/09 13	:02			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1070		50.0	ug/l	1x		1000	107%	(80-120)			06/12/09 19:30	
Surrogate(s): 4-BFB (FID)		Recovery:	94.4%	Lin	nits: 70-145%	"							06/12/09 19:30	
LCS (9F11016-BS2)								Extr	acted:	06/11/09 13	:02			
Benzene	NWTPH-Gx/ 8021B	28.8		0.500	ug/l	1x		30.0	95.9%	(80-125)			06/12/09 20:02	
Toluene	"	30.3		0.500	"	"		"	101%	(80-120)			"	
Ethylbenzene	"	30.2		0.500	"	"		"	101%	(80-125)			"	
Xylenes (total)	"	90.3		1.00	"	"		90.0	100%	(75-120)			"	
Surrogate(s): 4-BFB (PID)		Recovery:	95.3%	Lin	nits: 80-130%	"							06/12/09 20:02	
Duplicate (9F11016-DUP1)				QC Source:	BSF0101-01			Extr	acted:	06/11/09 13	:02			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	ND		50.0	ug/l	1x	ND				NR	(25)	06/12/09 22:45	
Benzene	"	ND		0.500	"	"	ND				21.6%	"	"	
Toluene	"	ND		0.500	"	"	ND				13.0%	"	"	
Ethylbenzene	"	ND		0.500	"	"	ND				NR	"	"	
Xylenes (total)	"	ND		1.00	"	"	ND				NR	"	"	
Surrogate(s): 4-BFB (FID) 4-BFB (PID)		Recovery:	84.8% 92.1%	Lin	nits: 70-145% 80-130%	"							06/12/09 22:45	
Matrix Spike (9F11016-MS1)				QC Source:	BSF0100-01			Extr	acted:	06/11/09 13	:02			
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1080		50.0	ug/l	1x	ND	1000	108%	(70-135)		-	06/13/09 04:42	
Surrogate(s): 4-BFB (FID)		Recovery:	93.1%	Lin	nits: 70-145%	"							06/13/09 04:42	
Matrix Spike (9F11016-MS2)				QC Source:	BSF0101-01			Extr	acted:	06/11/09 13	:02			
Benzene	NWTPH-Gx/ 8021B	31.7		0.500	ug/l	1x	0.128	30.0	105%	(60-135)			06/13/09 05:47	
Γoluene	"	31.6		0.500	"	"	0.115	"	105%	(65-135)			"	
Ethylbenzene	"	32.3		0.500	"	"	ND	"	108%	"			"	
Xylenes (total)	"	94.6		1.00	"	"	ND	90.0	105%	(65-130)			"	

TestAmerica Seattle

Carlling

Curtis D. Armstrong, Project Manager

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BOTHELL, WA 98011-8244 PH: (425) 420.9200 FAX: (425) 420.9210



**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

**Nordic Properties - Port Orchard** Project Name:

Project Number: 0644-001-01 Project Manager: Terry Montoya

Report Created: 06/16/09 14:42

# Gasoline Hydrocarbons (Benzene to Naphthalene) and BTEX by NWTPH-G and EPA 8021B - Laboratory Quality Control Results

TestAmerica Seattle

QC Batch: 9F11016 Water Preparation Method: EPA 5030B (P/T)

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

Matrix Spike (9F11016-MS2)	QC Source: BSF0101-01	Extracted: 06/11/09 13:02
----------------------------	-----------------------	---------------------------

Surrogate(s): 4-BFB (PID) Limits: 80-130% 06/13/09 05:47 Recovery: 92.6%

Matrix Spike Dup (9F11016-M	SD1)			QC Source:	BSF0100	)-01		Ext	acted:	06/11/09 13:	:02	
Gasoline Range Hydrocarbons	NWTPH-Gx/ 8021B	1030		50.0	ug/l	1x	ND	1000	103%	(70-135)	4.55% (25)	06/13/09 05:15
Surrogate(s): 4-BFB (FID)		Recovery:	91.8%	Lim	its: 70-14	5% "						06/13/09 05:15

Matrix Spike Dup (9F110	016-MSD2)		QC Source:	BSF0101	-01		Extr	acted: (	06/11/09 13	:02	
Benzene	NWTPH-Gx/ 8021B	31.5	 0.500	ug/l	1x	0.128	30.0	104%	(60-135)	0.694% (25)	06/13/09 06:20
Toluene	"	31.4	 0.500	"	"	0.115	"	104%	(65-135)	0.734% "	"
Ethylbenzene	"	32.2	 0.500	"	"	ND	"	107%	"	0.310% "	"
Xylenes (total)	"	94.2	 1.00	"	"	ND	90.0	105%	(65-130)	0.376% "	"

Surrogate(s): 4-BFB (PID) Recovery: 93.1% Limits: 80-130% 06/13/09 06:20

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

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**Sound Environmental Strategies** 

Project Name:

**Nordic Properties - Port Orchard** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020

Project Number: Project Manager: 0644-001-01 Terry Montoya

Report Created: 06/16/09 14:42

#### **CERTIFICATION SUMMARY**

#### **TestAmerica Seattle**

Method	Matrix	Nelac	Washington		
NWTPH-Gx/8021B	Water		X	 •	

Any abnormalities or departures from sample acceptance policy shall be documented on the 'Sample Receipt and Temperature Log Form' and 'Sample Non-conformance Form' (if applicable) included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

TestAmerica Seattle

Curtis D. Armstrong, Project Manager

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**Sound Environmental Strategies** 

2400 Airport Way South, Suite 200 Seattle, WA/USA 98134-2020 Project Name: Nordic Properties - Port Orchard

Project Number: 0644-001-01
Project Manager: Terry Montoya

06/16/09 14:42

Report Created:

#### **Notes and Definitions**

#### Report Specific Notes:

None

#### **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.

 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.

found on the anarytical raw data

Reporting - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

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 Seattle

Curtis D. Armstrong, Project Manager

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503-906-9200 FAX 906-9210 907-563-9200 FAX 563-9210

Work Order #: BSFD (1)0

CHAIN OF CUSTODY REPORT

425-420-9200 FAX 420-9210 509-924-9200 FAX 924-9290 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

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PHONE: 236-306-(900	) FAX: 206-304-10	401	P.O. NUMBER: <b>OUNT - 007 - 0</b>	10 - 100-	- Fee	
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CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TPH GX BYE BYE BYE			MATRIX # OF LOCATION/ TA (W, S, O) CONT. COMMENTS WO ID	√ A
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ADDITIONAL REMARKS:					QLablogo TEMP:c info 7.7 PAGE OF	-

TAL-1000(0408)

ΓΑΤ: Page Time & Initials:		ork to PM – Date:_	Time:		Non-Conformances?  Circle  or N  (If Y, see other side)
	TEST AMERIC	A SAMPLE RE	CEIPT CHEC	KLIST	
Received By: (applies to temp at receipt	Logged-in By:	Unpacked/ Labeled by:		by: Cooler I	D: 321
Date: 6/a/66 Time: 1600 Initials: F.J.	Date: <u>OOID</u> Time: <u>III7</u> Initials: <u>CW</u>	Time: 11:50	Time: 1200	Client:	No. BSFOICO
Container Type:  X Cooler Box None/Other	Ship Conta	OC Seals:  ainerS  X_ None	Sign By X	_ Foam Packs	SStyrofoam
Refrigerant:Gel Ice Pack X_Loose Ice/1None/Other	Planton Y	or N or NA tial/date/time	5:	DHL Senvoy _	Client  X TA Courier  Mid Valley
Cooler Temperature ( <u>II</u> Temperature Blank? _ BP, OPLC,ARCO-Tem	°C o(NA)com	ments		and aqueous $N$	
(initial/date/time):					
Sample Containers: Intact? Provided by TA? Correct Type? #Containers match CO IDs/time/date match CO Hold Times in hold?	<u>ID</u>   Or N	Meta Clier Adec (for te		Ø or 1 pace? Y or (1	N or (1) N Or NA
PROJECT MANAGE	MENT				
Is the Chain of Custoo	dy complete?		Υ	or N If N, circle	e the items that were incomplete
Comments, Problems_					

Total access set up?



# **ANALYTICAL REPORT**

Job Number: 580-15525-1

Job Description: Port Orchard - Bag St.

For:

Sound Environmental Strategies 2400 Airport Way South Suite 205 Seattle, WA 98134

Attention: Terry Montoya

Curtis Armstrong Project Manager I 9/30/2009 6:35 PN

Curtis Armstrong
Project Manager I
curtis.armstrong@testamericainc.com
09/30/2009

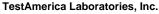
cc: Ryan Thompson

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.





# **Table of Contents**

Cover Title Page	1
Method Summary	3
Sample Summary	4
Sample Datasheets	5
Qc Reports	7
Client Chain of Custody	10
Sample Receipt Checklist	11

#### **METHOD SUMMARY**

Client: Sound Environmental Strategies

Description	Lab Location	Method Preparation Method
Matrix Water		
Volatile Organic Compounds (GC/MS)	TAL TAC	SW846 8260B
Purge and Trap	TAL TAC	SW846 5030B
Northwest - Volatile Petroleum Products (GC)	TAL TAC	NWTPH NWTPH-Gx
Purge and Trap	TAL TAC	SW846 5030B

#### Lab References:

TAL TAC = TestAmerica Tacoma

#### Method References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Job Number: 580-15525-1

# **SAMPLE SUMMARY**

Client: Sound Environmental Strategies Job Number: 580-15525-1

			Date/Time	Date/Time
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received
580-15525-1	MW16 - 20090917	Water	09/17/2009 1412	09/18/2009 1330

# **Analytical Data**

Client: Sound Environmental Strategies Job Number: 580-15525-1

Client Sample ID: MW16 - 20090917

 Lab Sample ID:
 580-15525-1
 Date Sampled: 09/17/2009 1412

 Client Matrix:
 Water
 Date Received: 09/18/2009 1330

#### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 580-51039 Instrument ID: TAC043

Preparation: 5030B Lab File ID: VB00118387.D

Dilution: 1.0 Initial Weight/Volume: 5 mL Date Analyzed: 09/29/2009 0204 Final Weight/Volume: 5 mL

Date Prepared: 09/29/2009 0204

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND		1.0
Toluene	ND		1.0
Ethylbenzene	ND		1.0
m-Xylene & p-Xylene	ND		2.0
o-Xylene	ND		1.0
Naphthalene	ND		1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluorobenzene (Surr)	100		80 - 120
Toluene-d8 (Surr)	96		85 - 120
Ethylbenzene-d10	105		80 - 120
Trifluorotoluene (Surr)	87		80 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120

# **Analytical Data**

Client: Sound Environmental Strategies Job Number: 580-15525-1

Client Sample ID: MW16 - 20090917

 Lab Sample ID:
 580-15525-1
 Date Sampled: 09/17/2009 1412

 Client Matrix:
 Water
 Date Received: 09/18/2009 1330

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Method: NWTPH-Gx Analysis Batch: 580-50830 Instrument ID: SEA008

Preparation: 5030B Initial Weight/Volume: 5 mL

Dilution: 1.0 Final Weight/Volume: 5 mL

Date Analyzed: 09/24/2009 1854 Injection Volume:

Date Prepared: 09/24/2009 1854 Result Type: PRIMARY

 Analyte
 Result (mg/L)
 Qualifier
 RL

 Gasoline
 ND
 0.050

Surrogate%RecQualifierAcceptance Limits4-Bromofluorobenzene (Surr)9750 - 150Trifluorotoluene (Surr)10550 - 150

Job Number: 580-15525-1 Client: Sound Environmental Strategies

Method Blank - Batch: 580-51039

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 580-51039/3

Client Matrix: Water 1.0

Date Analyzed: 09/28/2009 1738 Date Prepared: 09/28/2009 1738

Dilution:

Analysis Batch: 580-51039

Prep Batch: N/A Units: ug/L

Instrument ID: TAC043

Lab File ID: VB00118366.D Initial Weight/Volume: 5 mL Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL
Benzene	ND		1.0
Toluene	ND		1.0
Ethylbenzene	ND		1.0
m-Xylene & p-Xylene	ND		2.0
o-Xylene	ND		1.0
Naphthalene	ND		1.0
Surrogate	% Rec	Acceptance Limits	
Fluorobenzene (Surr)	99	80 - 120	
Toluene-d8 (Surr)	100	85 - 120	
Ethylbenzene-d10	111	80 - 120	
Trifluorotoluene (Surr)	85	80 - 120	
4-Bromofluorobenzene (Surr)	108	75 - 120	

Client: Sound Environmental Strategies Job Number: 580-15525-1

Lab Control Sample - Batch: 580-51039

Method: 8260B Preparation: 5030B

Lab Sample ID: LCS 580-51039/4

Client Matrix: Water Dilution: 1.0

Date Analyzed: 09/28/2009 1803 Date Prepared: 09/28/2009 1803 Analysis Batch: 580-51039

Prep Batch: N/A

Units: ug/L

Instrument ID: TAC043

Lab File ID: VB00118367.D Initial Weight/Volume: 5 mL Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	20.1	21.4	107	80 - 120	
Toluene	20.1	20.0	100	75 - 120	
Ethylbenzene	20.1	20.8	104	75 - 125	
m-Xylene & p-Xylene	40.1	37.1	92	75 - 130	
o-Xylene	19.9	18.3	92	80 - 120	
Naphthalene	20.1	15.4	77	55 - 140	
Surrogate	% R	lec	Acc	ceptance Limits	
Fluorobenzene (Surr)	10	13		80 - 120	
Toluene-d8 (Surr)	10	2		85 - 120	
Ethylbenzene-d10	10	9		80 - 120	
Trifluorotoluene (Surr)	88	}		80 - 120	
4-Bromofluorobenzene (Surr)	10	5		75 - 120	

RL

Client: Sound Environmental Strategies Job Number: 580-15525-1

Method: NWTPH-Gx Method Blank - Batch: 580-50830 Preparation: 5030B

Lab Sample ID: Analysis Batch: 580-50830 MB 580-50830/3 Instrument ID: SEA008 Client Matrix: Water Prep Batch: N/A Lab File ID: I2409013.D Dilution: 1.0 Units: mg/L Initial Weight/Volume: 5 mL Date Analyzed:

09/24/2009 1609 Final Weight/Volume: 5 mL

Qual

Date Prepared: 09/24/2009 1609 Injection Volume:

Column ID: **PRIMARY** 

Result

Gasoline ND 0.050 Surrogate % Rec Acceptance Limits

4-Bromofluorobenzene (Surr) 96 50 - 150 Trifluorotoluene (Surr) 103 50 - 150

Analyte

Method: NWTPH-Gx Lab Control Sample - Batch: 580-50830 Preparation: 5030B

Lab Sample ID: LCS 580-50830/4 Analysis Batch: 580-50830 Instrument ID: SEA008

Client Matrix: Water Prep Batch: N/A Lab File ID: I2409014.D Dilution: 1.0 Units: mg/L Initial Weight/Volume: 5 mL Date Analyzed: 09/24/2009 1637 Final Weight/Volume:

09/24/2009 1637 Date Prepared: Injection Volume: Column ID: **PRIMARY** 

Analyte Spike Amount % Rec. Limit Qual Result 0.857 79 - 110 Gasoline 1.00 86 Surrogate % Rec Acceptance Limits

4-Bromofluorobenzene (Surr) 101 50 - 150 93 50 - 150 Trifluorotoluene (Surr)

# **Login Sample Receipt Check List**

Client: Sound Environmental Strategies Job Number: 580-15525-1

Login Number: 15525 List Source: TestAmerica Tacoma

Creator: Blankinship, Tom

List Number: 1

Question	T / F/ NA	Comment
adioactivity either was not measured or, if measured, is at or below ackground	True	
he cooler's custody seal, if present, is intact.	True	
he cooler or samples do not appear to have been compromised or ampered with.	True	
amples were received on ice.	True	
Cooler Temperature is acceptable.	False	10.6
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
here are no discrepancies between the sample IDs on the containers and ne COC.	True	
amples are received within Holding Time.	True	
ample containers have legible labels.	True	
Containers are not broken or leaking.	True	
ample collection date/times are provided.	True	
ppropriate sample containers are used.	True	
sample bottles are completely filled.	True	
here is sufficient vol. for all requested analyses, incl. any requested IS/MSDs	True	
OA sample vials do not have headspace or bubble is <6mm (1/4") in iameter.	True	
necessary, staff have been informed of any short hold time or quick TAT eeds	True	
fultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
s the Field Sampler's name present on COC?	True	
ample Preservation Verified	N/A	



# **ANALYTICAL REPORT**

Job Number: 580-17031-1

Job Description: Nordic Properties:Bay St

For:

Sound Environmental Strategies 2400 Airport Way South Suite 205 Seattle, WA 98134

Attention: Terry Montoya

ue my

Approved for release Curtis Armstrong Project Manager I 12/30/2009 8:53 AM

Curtis Armstrong
Project Manager I
curtis.armstrong@testamericainc.com
12/30/2009

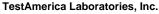
cc: Ryan Thompson

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This report shall not be reproduced except in full, without prior express written approval by the laboratory. The results relate only to the item(s) tested and the sample(s) as received by the laboratory.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan and meet all requirements of NELAC. All data have been found to be compliant with laboratory protocol, with the exception of any items noted in the case narrative.





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#### **METHOD SUMMARY**

Client: Sound Environmental Strategies

Description	Lab Location	Method Preparation Method
Matrix: Water		
Volatile Organic Compounds (GC/MS) Purge and Trap	TAL TAC TAL TAC	SW846 8260B SW846 5030B
Northwest - Volatile Petroleum Products (GC) Purge and Trap	TAL TAC TAL TAC	NWTPH NWTPH-Gx SW846 5030B

#### Lab References:

TAL TAC = TestAmerica Tacoma

#### **Method References:**

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Job Number: 580-17031-1

# **SAMPLE SUMMARY**

Client: Sound Environmental Strategies Job Number: 580-17031-1

			Date/Time	Date/Time	
Lab Sample ID	Client Sample ID	Client Matrix	Sampled	Received	-
580-17031-1	MW16-20091214	Water	12/14/2009 1358	12/15/2009 0920	

# **Analytical Data**

Client: Sound Environmental Strategies Job Number: 580-17031-1

Client Sample ID: MW16-20091214

 Lab Sample ID:
 580-17031-1
 Date Sampled: 12/14/2009 1358

 Client Matrix:
 Water
 Date Received: 12/15/2009 0920

#### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 580-55894 Instrument ID: TAC043

Preparation: 5030B Lab File ID: VB00121453.D

Dilution: 1.0 Initial Weight/Volume: 5 mL

Date Analyzed: 12/21/2009 1740 Final Weight/Volume: 5 mL

Date Prepared: 12/21/2009 1740

Analyte	Result (ug/L)	Qualifier	RL
Benzene	ND	*	1.0
Toluene	ND		1.0
Ethylbenzene	ND		1.0
m-Xylene & p-Xylene	ND		2.0
o-Xylene	ND		1.0
Naphthalene	ND		1.0
Surrogate	%Rec	Qualifier	Acceptance Limits
Fluorobenzene (Surr)	115		80 - 120

urrogate	%Rec	Qualifier	Acceptance Limits	
uorobenzene (Surr)	115		80 - 120	
oluene-d8 (Surr)	100		85 - 120	
thylbenzene-d10	94		80 - 120	
rifluorotoluene (Surr)	89		80 - 120	
Bromofluorobenzene (Surr)	91		75 - 120	

# **Analytical Data**

Client: Sound Environmental Strategies Job Number: 580-17031-1

Client Sample ID: MW16-20091214

 Lab Sample ID:
 580-17031-1
 Date Sampled: 12/14/2009 1358

 Client Matrix:
 Water
 Date Received: 12/15/2009 0920

NWTPH-Gx Northwest - Volatile Petroleum Products (GC)

Method: NWTPH-Gx Analysis Batch: 580-55930 Instrument ID: SEA008

Preparation: 5030B Initial Weight/Volume: 5 mL

Dilution: 1.0 Final Weight/Volume: 5 mL

Date Analyzed: 12/21/2009 1622 Injection Volume:

Date Prepared: 12/21/2009 1622 Result Type: PRIMARY

 Analyte
 Result (mg/L)
 Qualifier
 RL

 Gasoline
 ND
 0.050

Surrogate %Rec Qualifier Acceptance Limits

 4-Bromofluorobenzene (Surr)
 97
 50 - 150

 Trifluorotoluene (Surr)
 112
 50 - 150

# **DATA REPORTING QUALIFIERS**

Client: Sound Environmental Strategies Job Number: 580-17031-1

Lab Section	Qualifier	Description
GC/MS VOA		
	*	LCS or LCSD exceeds the control limits
	X	Surrogate exceeds the control limits

Client: Sound Environmental Strategies Job Number: 580-17031-1

Method Blank - Batch: 580-55894

Method: 8260B Preparation: 5030B

Lab Sample ID: MB 580-55894/6

Client Matrix: Water
Dilution: 1.0

Date Analyzed: 12/21/2009 1048 Date Prepared: 12/21/2009 1048 Analysis Batch: 580-55894

Prep Batch: N/A Units: ug/L Instrument ID: TAC043 Lab File ID: VB00121441.D Initial Weight/Volume: 5 mL

Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL	
Benzene	ND		1.0	
Toluene	ND		1.0	
Ethylbenzene	ND		1.0	
m-Xylene & p-Xylene	ND		2.0	
o-Xylene	ND		1.0	
Naphthalene	ND		1.0	
Surrogate	% Rec		Acceptance Limits	
Fluorobenzene (Surr)	113		80 - 120	
Toluene-d8 (Surr)	100		85 - 120	
Ethylbenzene-d10	97		80 - 120	
Trifluorotoluene (Surr)	74	X	80 - 120	
4-Bromofluorobenzene (Surr)	91		75 - 120	

Client: Sound Environmental Strategies Job Number: 580-17031-1

Lab Control Sample - Batch: 580-55894

Method: 8260B Preparation: 5030B

Lab Sample ID: LCS 580-55894/7

Client Matrix: Water Dilution: 1.0

Date Analyzed: 12/21/2009 1318 Date Prepared: 12/21/2009 1318 Analysis Batch: 580-55894

Prep Batch: N/A Units: ug/L Instrument ID: TAC043
Lab File ID: VB00121442.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	20.1	25.0	125	80 - 120	*
Toluene	20.1	20.3	101	75 - 120	
Ethylbenzene	20.1	22.2	110	75 - 125	
m-Xylene & p-Xylene	40.1	44.9	112	75 - 130	
o-Xylene	19.9	21.3	107	80 - 120	
Naphthalene	20.1	15.8	79	55 - 140	
Surrogate	% F	Rec	Acc	ceptance Limits	
Fluorobenzene (Surr)	10	9		80 - 120	
Toluene-d8 (Surr)	10	)2		85 - 120	
Ethylbenzene-d10	10	)2		80 - 120	
Trifluorotoluene (Surr)	88	3		80 - 120	
4-Bromofluorobenzene (Surr)	97	•		75 - 120	

Job Number: 580-17031-1 Client: Sound Environmental Strategies

Method Blank - Batch: 580-55930 Method: NWTPH-Gx

Preparation: 5030B

12/21/2009 1333

Date Prepared:

Lab Sample ID: MB 580-55930/3 Analysis Batch: 580-55930 Instrument ID: SEA008 Client Matrix: Water Prep Batch: N/A Lab File ID: L2109004.D Dilution: 1.0 Units: mg/L Initial Weight/Volume: 5 mL 12/21/2009 1333 Date Analyzed:

Final Weight/Volume: 5 mL

Injection Volume:

Column ID: **PRIMARY** 

Result Qual RL Analyte Gasoline ND 0.050 % Rec Surrogate Acceptance Limits 100 4-Bromofluorobenzene (Surr) 50 - 150 Trifluorotoluene (Surr) 112 50 - 150

Method: NWTPH-Gx Lab Control Sample - Batch: 580-55930 Preparation: 5030B

Lab Sample ID: LCS 580-55930/4 Analysis Batch: 580-55930 Instrument ID: SEA008

Client Matrix: Water Prep Batch: N/A Lab File ID: L2109005.D Dilution: 1.0 Units: mg/L Initial Weight/Volume: 5 mL

12/21/2009 1400 Date Analyzed: Final Weight/Volume:

12/21/2009 1400 Date Prepared: Injection Volume:

Column ID: **PRIMARY** 

Analyte Spike Amount Result % Rec. Limit Qual Gasoline 1.00 0.982 79 - 110 98 Surrogate % Rec Acceptance Limits 50 - 150 4-Bromofluorobenzene (Surr) 104 Trifluorotoluene (Surr) 106 50 - 150

# **Login Sample Receipt Check List**

Client: Sound Environmental Strategies

Job Number: 580-17031-1

Login Number: 17031 List Source: TestAmerica Tacoma

Creator: Gamble, Cathy

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	N/A	