

401K08

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Summary of Water Chemical Analytical Results  
 Petroleum Hydrocarbons

Table No.

1

**FIGURES**

Vicinity Map  
 Site Plan

Figure No.

1

2

1-20-2009

5232 SHILSHOLE AVE NW SEATTLE

11/8/2011 Ar

REPORT  
GROUND WATER MONITORING  
QUARTERLY REPORT (4QTR08)  
HALCO PROPERTIES, LLC  
SEATTLE, WASHINGTON

## 1.0 INTRODUCTION

### 1.1 GENERAL

This report presents the results of our Fourth Quarter (2008) Ground Water Monitoring of the property located at 5221 Ballard Avenue NW, Seattle, Washington. The subject site currently is owned by the HALCO PROPERTIES LLC. The property is currently operated by the Salmon Bay Sand & Gravel Company. The location of the subject site relative to surrounding physical features is shown in Figure 1. The general layout of the site is shown in Figure 2.

Our monitoring studies concentrated on ten (10) pre-existing ground water monitoring wells.

### 1.2 PREVIOUS STUDIES AND HISTORICAL INFORMATION

The following reports are available for this site:

Site Assessment C&C Paint Company Report, prepared for C&C Paint Company, prepared by Bison Environmental Northwest Inc., February 19, 1991

Ballard Avenue Landmark Letter, prepared for Mr. Robert Campbell - Cowen Campbell Paint Company, prepared by Ms. Susan Kunimatsu - Ballard Avenue Landmark District Board, April 17, 1991

Buried Tanks in Alley - Cracks in Ballard Hardware South Wall Letter, prepared for Mr. E Arthur Cowman - C&C Paints, prepared by Mr. Charles E. Kitchin - Pacific Testing Laboratories, April 19, 1991

Underground Storage Tank Closure in Place Site Assessment Report - Cowman-Campbell Paint Company, prepared for Cowman-Campbell Paint Company, prepared by Bison Environmental Northwest Inc., November 30, 1992

Groundwater Survey and Monitoring Well Installation - C&C Paint Company Property, prepared for Mr. Robert D. Allen - BettsPatterson & Mines - Attorneys At Law, prepared by Mr. Henry Perrin - Columbia Environmental Inc., December 11, 1995

Phase 2 Environmental *Site* Assessment - C&C Paint Company Property, prepared for Mr. Hal Cowman - CZS Enterprises mc, prepared by Mr. Henry Perrin - Columbia Environmental Inc., February 12, 1996

Cleanup Proposal - C&C Paint Company Property, prepared for Mr. Joseph Hickey - Department of Ecology, prepared by Mr. Ronald D. Allen - Betts, Patterson & Mines, PS., May 17, 1996

Quarterly Groundwater Monitoring Report - C&C Paint Company Property, prepared for Mr. Joseph Hickey - Department of Ecology, prepared by Mr. Ronald D. Allen - Betts, Patterson & Mines, PS, July 26, 1996

Quarterly Groundwater Monitoring Report - C&C Paint Company Property, prepared for Mr. Joseph Hickey - Department of Ecology, prepared by Mr. Ronald D. Allen - Betts, Patterson & Mines, PS, October 15, 1996

Quarterly Groundwater Monitoring Report - C&C Paint Company Property, prepared for Mr. Joseph Hickey - Department of Ecology, prepared by Mr. Ronald D. Allen - Betts, Patterson & Mines, PS, January 21, 1997

Quarterly Groundwater Monitoring Report - C&C Paint Company Property, prepared for Mr. Joseph Hickey - Department of Ecology, prepared by Mr. Ronald D. Allen - Betts, Patterson & Mines, PS, April 25, 1997

UST Closure In Place - Site Assessment Report - C&C Paints, prepared for Mr. Hal Cowman -C&C Paint Company, prepared by Mr. Michael Lam - Nowicki & Associates, February 10, 1998

October 2000 Annual Groundwater Monitoring - C&C Paints Site, prepared for Mr. Hal Cowman, prepared by Mr. Michael Lam - Nowicki & Associates, October 28, 2000

300-Gallon Diesel Heating Oil UST Closure Site Assessment Report - C&C Paint, prepared for Mr. Hal Cowman - C&C Paint Company, prepared by Mr. Michael Lam - Nowicki & Associates, November 28, 2000

September 2002 Annual Groundwater Monitoring - C&C Paints Site, prepared for Mr. Hal Cowman, prepared by Mr. Michael Lam - Nowicki & Associates, September 26, 2002

Ground Water Monitoring, Quarterly Report 2ndQTR06, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., June 28, 2006.

Ground Water Monitoring, Quarterly Report 3rdQTR06, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., August 31, 2006.

Ground Water Monitoring, Quarterly Report 4thQTR06, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., December 12, 2006.

Ground Water Monitoring, Quarterly Report 1stQTR07, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., January 2007.

Ground Water Monitoring, Quarterly Report 2ndQTR07, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., July 7, 2007.

Ground Water Monitoring, Quarterly Report 4thQTR07, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., November 9, 2007.

Ground Water Monitoring, Quarterly Report 1stQTR08, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., March 27, 2008.

Ground Water Monitoring, Quarterly Report 2ndQTR08, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., July 9, 2008.

Ground Water Monitoring, Quarterly Report 3rdQTR08, Halco Properties, LLC, Seattle Washington, prepared by Mr. Chadrick Morse, Morse Environmental, Inc., November 13, 2008.

### 1.3 PURPOSE AND SCOPE

The purpose of our Ground Water Monitoring was to evaluate any residual petroleum soil contamination after the removal of an Underground Storage Tank (UST).

Our specific scope of services included the following:

1. Develop a site safety plan for use by Morse Environmental staff during field activities.
2. Identify measurement of ground water level.
3. Removed (purge) stagnant water within the monitoring well using a peristaltic pump.
4. Obtain well samples using existing bailers.
5. Monitoring of pH, temperature and specific conductance.
6. Obtain ten (10) Ground Water Samples for Laboratory Analysis using the HCID method to screen and the WTPH-Dx method to quantify.
7. Quarterly Report of Findings.

## **2.0 SITE DESCRIPTION**

### **2.1 SURFACE CONDITIONS**

The site is occupied by the Salmon Bay Sand & Gravel Company. The site is comprised of three parcels that encompass 0.51 acres; the approximate location of the on-site building is shown in Figure 2.

## **3.0 FINDINGS**

### **3.1 FIELD EXPLORATIONS**

Morse Environmental monitored ten (10) of the ten (10) wells present on the site. All wells are accessible for testing.

### **3.2 SUBSURFACE CONDITIONS**

#### **3.2.1 Soil**

No soil was considered in this evaluation.

#### **3.2.2. Ground Water**

Ground water sampling results appear in Table 1. These results show some presence of hydrocarbons in the gas-solvent range were found in one monitoring wells (MW-1).

### **3.3 SUBSURFACE ENVIRONMENTAL CONDITIONS**

#### **3.3.1 Field Screening Results**

Field screening was performed on wells upon arrival. The field screen results are found in Table 1.

Field screening results indicated no probable presence of volatile petroleum in any of the samples.

#### **3.3.2 Soil Chemical Analyses**

No soil samples were taken or analyzed

#### **3.3.3 Ground Water Chemical Analyses**

NWTPH-Gas is the qualitative and quantitative method for volatile ("gas-solvent") petroleum products in soil and water. Petroleum products applicable for this include Stoddard solvent, gasoline fractions.

#### **4.0 CONCLUSIONS**

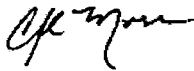
Petroleum hydrocarbons in the gas-solvent range were detected in a Monitoring Well (MW1). No Benzene was present in any of the wells. All residual concentrations are below the Washington State Cleanup Standard (Method A) except for MW-1 which shows Gas in excess of the cleanup standard.

## **5.0 LIMITATIONS**

Morse Environmental has prepared this report in a professional manner, using the level of skill and care normally exercised for similar projects under similar conditions by reputable and competent environmental consultants currently practicing in the area, and in accordance with the directives provided by the facility management. Morse Environmental is not responsible for conditions or consequences arising from relevant facts that were not disclosed at the time of our visit. We also note that the facts and conditions referenced in this report may change over time, and that the conclusions set forth here are applicable to the facts and conditions at the time of this report. Conclusions were made within the operative constraints of the scope, budget and schedule for this project. We believe that the conditions stated here are factual, but no guarantee is made or implied.

## **4.0 Signature of Environmental Professional**

**MORSE ENVIRONMENTAL, INC.**



Chadrick Morse  
Principal Chemist



TABLE 1  
SUMMARY OF GROUND WATER CHEMICAL ANALYTICAL RESULTS  
PETROLEUM HYDROCARBONS  
HALCO PROPERTIES LLC  
Seattle, Washington

Sample Number	Depth to Water Table	Date Sampled	Sheen	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gas Range <sup>2</sup> Hydrocarbons
MW-1		12/30/08	NS	ND	29	2,900	11,000	31,000
MW-2		12/30/08	NS	ND	ND	ND	ND	ND
MW-3		12/30/08	NS	ND	ND	ND	ND	ND
MW-4		12/30/08	NS	ND	ND	ND	ND	ND
MW-5		12/30/08	NS	ND	ND	ND	ND	ND
MW-6		12/30/08	NS	ND	ND	ND	ND	120
MW-7		12/30/08	NS	ND	ND	ND	ND	ND
MW-8		12/30/08	NS	ND	ND	ND	ND	ND
MW-9		12/30/08	NS	ND	ND	ND	ND	ND
MW-10		12/30/08	NS	ND	ND	ND	ND	ND
MTCA Method A Cleanup <sup>3</sup>								1000 <sup>3</sup>

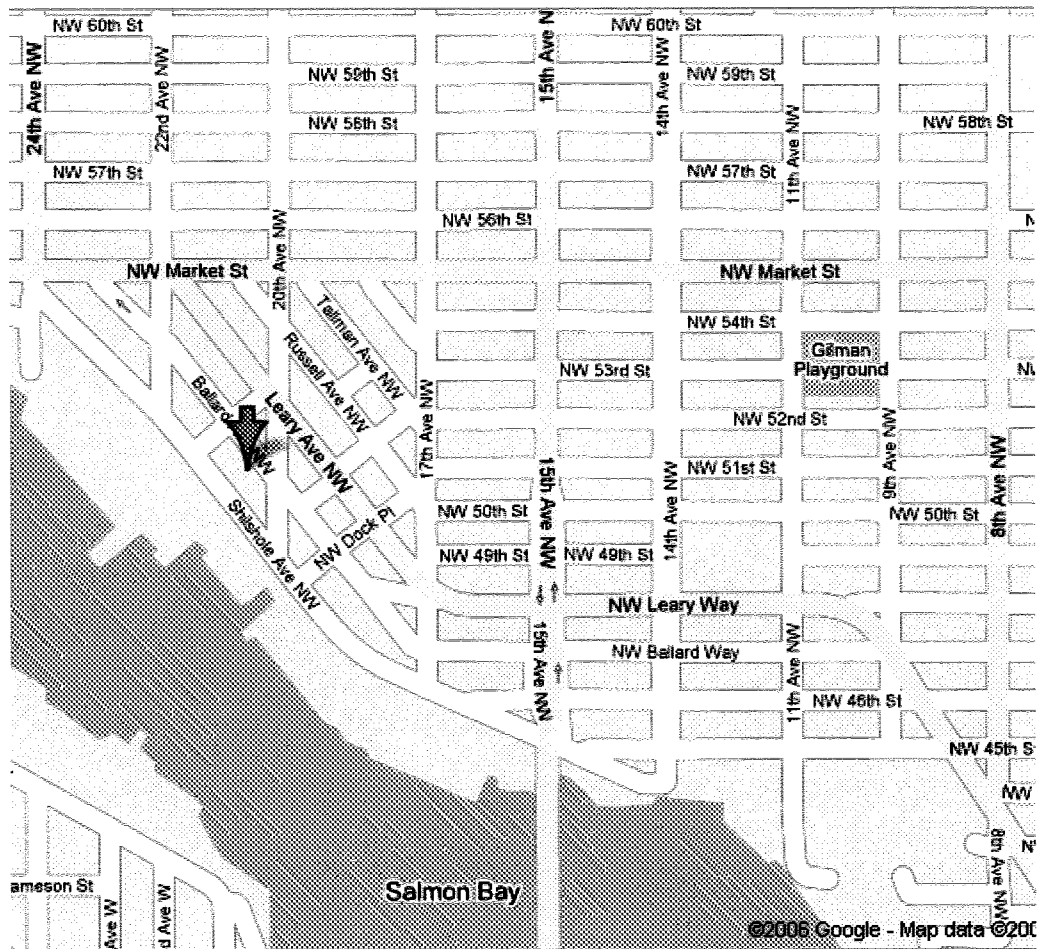
All units in ug/L

Notes:

<sup>1</sup> Analyzed by Ecology Method TPH-Gas/BETX for Gas-Solvent Range.  
Chemical analyses conducted by Friedman & Bruya Lab, Seattle, Washington.

ND=Not Detected above respective detection limits.

<sup>3</sup> Gas-Solvent Range Limit When No Benzene in Water Sample is Detected.



**Morse  
Environmental, Inc.**

## VICINITY MAP

FIGURE 1

