COUNTRY JUNCTION –PORT ORCHARD, WASHINGTON

SAMPLING PLAN

APRIL 11, 2018

REVISED 4/27/2018

Trendline
Environmental Chemistry

COUNTRY JUNCTION –PORT ORCHARD, WASHINGTON

SAMPLING PLAN

APRIL 11, 2018

REVISED
4/27/2018

PROJECT LOCATION

5310 MILE HILL DRIVE
PORT ORCHARD, WASHINGTON 98366

PREPARED FOR

JOHN PARK
HUNGSUNG, LLC
12422 58TH AVE NW
GIG HARBOR, WASHINGTON 98332

PREPARED BY

TRENDLINE ENVIRONMENTAL CHEMISTRY, INC
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Chapter 1. Introduction

The purpose of this Sampling Plan (SP) is to obtain a "snap shot" in time of the existing petroleum contamination and environmental conditions associated with the Country Junction site located at 5310 Mile Hill Road in Port Orchard, Washington. This sampling plan has been prepared at a request of the Washington Department of Ecology (WDOE) and as such will offer laboratory support in the way of pre-cleaned sample containers, sample analysis and a data report. Trendline Environmental Chemistry (Trendline) will be providing the sampling and transportation of samples to the laboratory.

This scope of work includes these services:

- Collection of groundwater samples from 5 monitoring wells, and from the Investigate Derived Waste (IDW) water drum located on site
- Prescreening of those 5 wells before sampling (separate site visit)
- Transportation of collected samples to WDOE's Manchester Labs

The description of the sampling methodology for the groundwater characterization associated with the Country Junction Site (CJS) along with 2011 summary data report can be found in the "*Final Summary Report for the Groundwater Monitoring and Remediation*" (HartCrowser, 2011). This document was provided by WDOE and shall be used as a reference Sampling and Analysis Plan (SAP) which was accepted and approved by WDOE for the purposes of field methodology required to obtain groundwater samples.

The SAP provides (which we are not using) the overall study design, team responsibilities, sediment collection methods, chemical analysis, quality assurance methods, and data reporting requirements for sediment characterization and ground water monitoring. This SP work will be performed as part of the overall SAP and will only be used to obtain groundwater site conditions and samples. Any further work will not be obtained from this SP, further study may include a sediment characterization assessment and further groundwater monitoring. This SP is being voluntarily prepared to address WDOE's request. This SP has been prepared in consideration of the WDOE's preparation guidance documents (WDOE, 2008) as well as Chapter 173-204 Washington Administrative Code (WAC), the Washington State Sediment Management Standards (WDOE, 2013).

1.1 Past Ground Water and Sediment Characterization

The summary data report can be found in the "*Final Summary Report for the Groundwater Monitoring and Remediation*" (HartCrowser, 2011). An "*Interim Action Report Petroleum-Impacted Soil Cleanup Action Country Junction Store"* (WDOE, 2010) report outlines WDOE's removal of Underground Storage Tanks (UST), soil removal and replacement, groundwater monitoring, and disposal actions taken at this site.

1.2 Project Description

This project proposes to review the current monitoring well conditions, obtain groundwater samples from 5 existing wells and provide WDOE's Manchester Labs with those samples. No further investigation nor actions are planned or anticipated.

1.3 Project Objectives

There are no SAP data objectives purposed for this study.

1.4 Project Area and Location

The project and project monitoring will take place at the Country Junction site located at 5310 Mile Hill Road in Port Orchard, Washington (Figure 1). Additional detail can be obtained in referenced documents.

Figure 1. Approximate Project Area.

(Google maps)

Chapter 2. Project Team and Responsibilities

2.1 Project Planning and Agency Coordination

The Contracting Officer's Representative for this task order will be Mr. John Park. The Contracting Officer's Representative is responsible for all technical aspects of the contract and coordinates the contract administration. The Contracting Officer's Representative assures the technical requirements of the contract are met, performs inspections and monitors contract performance, maintains communication with contractor, issues written interpretations of technical requirements, and notifies the contracting office and contractor of any deficiencies. Contact information for Mr. John Park can be found in Appendix B.

Mr. John Park is utilizing Trendline as a subcontractor responsible for SP preparation, and field sampling. The Trendline Environmental Chemistry, Inc. team will serve as the Program Manager and will be responsible for field site coordination and sampling. In addition, Mr. Rick Fuller will serve as the Project Manager, and will be responsible for overall quality control of the project. Contact information for Mr. Rick Fuller can be found in Appendix B.

2.2 Field Sample Collection

Mr. Rick Fuller of Trendline will lead the field sampling program. Trendline will conduct field collection of the groundwater samples and maintain the field log, and schedule personnel and subcontractor services. Mr. Fuller will also serve as the Site Safety Officer. The Health and Safety Plan is provided as Appendix A. Mr. Fuller will be responsible for sample bottle collection, sample collection, accurate station positioning, the deployment and retrieval of sampling equipment, and recording sample locations and well depths.

Trendline will be responsible for documenting sample preparation, sample descriptions, and chain of custody (COC) until the samples are shipped or delivered to the laboratories for analysis. Trendline will also ensure that all required handling and analytical protocols, including decontamination, compositing, proper record-keeping, storage conditions, and holding times, are maintained in accordance with the SP or referenced SAP.

2.2.1 Sampling

All sampling will be performed according to guidelines recommended from the WDOE's preparation guidance documents (WDOE, 2008) as well as Chapter 173-204 Washington Administrative Code (WAC), the Washington State Sediment Management Standards (WDOE, 2013).

2.3 Laboratory Analyses

WDOE Manchester Labs, Manchester, Washington, will serve as the analytical laboratory project manager, and will be responsible for the testing and reporting of all chemical analytes. The analytical

laboratory will handle and analyze the submitted samples in accordance with SAP and SP protocols. The analytical laboratory report and QA/QC results will be included as appendices in the final data report. Contact information for WDOE Manchester can be found in Appendix B.

Once data is received from the laboratory, a number of quality control procedures will be followed to provide an accurate evaluation of the data quality. Specific procedures will be followed to assess data precision, accuracy, and completeness. A data quality review of the analytical data will follow EPA National Functional Guidelines (EPA, 1999), in accordance with the Quality Assurance Program Plan limits. Mr. Rick Fuller of Trendline will complete the data analysis and conclusions.

2.4 Quality Assurance Quality Control Management

Mr. Rick Fuller of Trendline will be responsible for QA/QC management of the field sampling, sample processing, and reporting elements. Mr. Rick Fuller oversight of analytical laboratory procedures, data review and management coordination, and assurance that reported data are valid and usable data requirements. Mr. Rick Fuller will serve as the Data Quality Reviewers to provide data quality review and validation in accordance with the SP and SAP procedures.

2.5 Draft and Final Data Report

The laboratory report will serve as a Draft data report and only after Mr. Rick Fuller has reviewed these data reports will the data be considered Final. Once all comments are received, any necessary additions, revisions, and/or clarifications will be made to the Characterization Report. Response to comments will be discussed with reviewers to assure their comments are adequately addressed in the revised data report.

Chapter 3. Data Collection and Sampling Handling Methods

3.1 Sampling

Groundwater samples will be collected from five monitoring wells located on site for chemical analysis at WDOE Manchester Labs. One duplicate sample will be collected during the sampling event.

3.2 Sampling Equipment

- pH, specific conductivity, dissolved oxygen, Redox, and temperature meter
- Solinst or equivalent water level meter
- Grundfos pump system
- Laboratory supplied pre-cleaned sample containers and Chain of Custody
- Coolers with ice
- Alconox and Di water

3.3 Groundwater Sampling Procedures

At the monitoring well head, field personnel will record GPS location, time, date, weather, depth to water, and depth to bottom of well.

Prior to sampling the wells will be purged and water collected in 55 gallon drums for disposal at a later date. The usual purge volume will be 5 times the standing water volume, but care will be taken to obtain a consistent water chemistry that accurately represents the ground water conditions. Ground water samples will be collected following low flow protocols and after the field parameters have stabilized. Field parameters will be pH, conductivity, temp, dissolved oxygen, Redox, and turbidity.

Groundwater samples will be collected directly from the Grundfos discharge tube. Manchester Labs require three 40 ml samples per well. Additionally, field personnel will select one well to pull an additional 10 samples for MS/MSD lab analysis. Care will be taken to sample wells expected to be clean and free of contamination to the more contaminate expected well. An extra polyethylene tube will be on site in case of sampling concern.

To prevent cross contamination the well sampling equipment will be rinsed and decontaminated between well locations with an Alconox or non-phosphate detergent and deionized water cycle. It is

very important to rinse all of the Alconox off with the DI water. If there is any that gets into the sample, it will foam up in the purge and cause issues with the in purge and trap

Table 1. Target Sampling Locations (HartCrowser).

Sample ID	Sample Description
MW-1	TPHG
MW-4	TPHG
MW-6	TPHG
MW-7	TPHG, Pb
MW-8	TPHG
IDW-water drum	TPHG

Gasoline range petroleum hydrocarbons (TPHG), benzene, ethylbenzene, toluene, and xylenes (BTEX).; Lead (Pb) total and dissolved

3.4 Laboratory Analysis

All groundwater samples will be analyzed for gasoline products- NWTPH-G and BTEX. One sample will also include a total and dissolved lead analysis. Trip blanks will be provided by the laboratory.

The following criteria must be met in order to meet sample collection goals:

- Purge volume was x5 well water volume;
- Field parameters held constant after sample collection, and
- Sufficient groundwater was available.

The site sampling location, well number, GPS, date and time of collection, field crew, and field parameters before and after sampling, and weather conditions will be recorded in the field log.

3.4.1 Sample QA/QC

One sample duplicate will be taken from this set.

3.4.2 Sample Storage and Delivery

All samples will be stored in insulated coolers and preserved by cooling with ice or frozen gel packs to a temperature of 0 to 6° Celsius. Maximum sample holding and extraction times will be strictly adhered to by field personnel and the analytical laboratories.

The samples will remain in the custody of the field staff. Immediately after sampling, all samples will be transported back to WDOE Manchester Labs in Manchester, Washington.

3.5 Field Documentation

A complete record of field activities will be maintained. Documentation necessary to meet quality assurance (QA) objectives for this project include field notes and field forms (Appendix C), sample container labels, and COC forms. The field documentation will provide descriptions of all sampling

activities, sampling personnel, and weather conditions, and will also record all modifications, decisions, and/or corrective actions to the study design and procedures.

3.5.1 Field Logbooks

Field logbooks will be kept on-site during field operations to record daily activities. These logbooks are separate from necessary COC documentation. All entries will be made legibly, in indelible ink, and will be signed and dated. Information recorded will include the following:

- Date, time, place, and location (GPS) of sampling;
- On-site personnel and visitors present;
- Daily safety discussion and any safety issues;
- Quality control samples (i.e., blind field split);
- Field measurements and their units;
- Observations regarding site, location, and samples (weather, current, odors, appearance, etc.), and
- Equipment decontamination verification.

Field logbooks are intended to provide sufficient data and observations to enable participants to reconstruct events that occur during project field activities. Entries should be factual, detailed, and objective. Unless restricted by weather conditions, all original data recorded in field logbooks and on sample identification labels, COC records, and field forms will be written in waterproof ink. If an error is made, the individual responsible may make corrections simply by crossing out the error and entering the correct information. The erroneous information should not be obliterated. All corrections must be initialed and dated. All documentation, including voided entries, must be maintained within project files.

3.5.2 Chain of Custody Procedures

COC forms will be initiated at the time of sample collection to ensure that all collected samples are properly documented and traceable through storage, transport, and analysis. While in the field, all samples will be under direct possession and control of a qualified Trendline Environmental Chemistry Scientist. For the chemistry sample, all sample information will be recorded on the COC form. The COC may be started at the time that each sample is collected. This form may be completed in the field and will accompany the chemistry sample during transport and delivery to the laboratory. All samples will be held and transported in coolers with ice or frozen gel-packs at approximately 0 to 6°Celsius. Information tracked by the COC records will include sample identification, date and time of sample collection and receipt, and analyses required. When all line items on the form are completed or when the samples are relinquished, the sample collection custodian will sign and date the form, list the time, and confirm the completeness of all descriptive information contained on the form. Each individual who subsequently assumes responsibility for the samples will sign and date the COC form. The signed and dated COC forms will be enclosed in a plastic bag and taped to the inside lid of the cooler prior to shipping. Upon arrival at the laboratory, the sample delivery person will relinquish the

samples to the sample login person. The field sample custodian should retain a copy of the completed, signed COC form(s) for project files. The field COC terminates when the laboratory receives the samples. The date and time of sample delivery will be recorded and both parties will then sign off in the appropriate sections on the COC form at this time. Upon receipt of samples at the laboratories, the shipping container seal will be broken and the receiver will record the condition of the samples and the temperature of the temperature blank. The laboratories will maintain COC internally to track handling and final disposition of all samples. Once completed, the original COC form will be archived in the project file.

3.6 Equipment Decontamination Procedures

Sample processing equipment will be washed with a laboratory-grade detergent (e.g., Alconox) and then rinsed with deionized water prior to field operations.

3.7 Waste Disposal

Investigative Derived Waste (IDW) purge water and excess purge water from sampling activities will be contained in 55 gallon drums or similar on site. IDW drum(s) will be labeled as to contents and date generated. Four 40 ml samples will be taken from the IDW water and submitted to Manchester Labs for NWTPH-G and BTEX analysis. Used personal protective equipment (PPE) such as disposable gloves; paper towels; and associated packaging, will be placed in plastic storage bags and disposed of as municipal waste.

Chapter 4. Laboratory Methods

All of the chemical analytical testing procedures used in this program will be performed in accordance with the WDOE guidelines. The laboratory analysis will be consistent with WDOE Toxics Cleanup Program guidelines. Each laboratory participating in this program has instituted internal QA/QC plans. Analyses will be required to conform to accepted standard methods and internal QA/QC checks prior to final approval.

4.1 Analytical Methods

WDOE Manchester will follow the NWTPH-G, and BTEX methods for volatile organic compounds for all ground water monitoring samples; and total and dissolved lead by EPA method 200.8 (ICPMS).

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4.1.1 Holding Times

All samples for chemical testing will be maintained at the laboratories at appropriate temperatures and will be analyzed prior to the expiration times specified in NWTPH-G method.

4.1.2 Quality Assurance/Quality Control

Trip blanks and a sample duplicate will be used to verify sample control and data results.

Chapter 5. Quality Assurance and Quality Control Measures

The purpose of the project QA/QC is to provide confidence in the project data results through a system of quality control performance checks with respect to data collection methods, laboratory analysis, data reporting, and appropriate corrective actions to achieve compliance with established performance and data quality criteria. This section presents the QA/QC procedures to ensure that the investigations data results are defensible and usable for their intended purpose.

5.1 Measurements of Data Quality

5.1.1 Precision

Precision is a measure of mutual agreement among individual measurements of the same property under prescribed conditions. Precision will be assessed by the analysis of lab duplicates (for metals) and MS/MSDs (for organics) performed on select project samples to determine the reproducibility of the measurements. Conventional parameter determinations will be evaluated by the analysis of triplicate analyses. Organics precision will be evaluated by the analysis of MS/MSDs performed on specific project samples.

5.1.2 Accuracy

Accuracy is the degree of agreement of a measurement (or an average of multiple measurements), with an accepted reference or true value, usually expressed as the difference between the two values (measured-true), the difference as a percentage of the true value, or as a ratio. Accuracy is a measure of the bias in the system and is expressed as the percent recovery of spiked (matrix or surrogate spike) samples. Laboratory control samples and SRMs/CRMs may be analyzed with each batch of samples as a further assessment of analytical accuracy in the absence of matrix effects.

5.1.3 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent an actual condition or characteristic at a particular sampling point. Representativeness is achieved by collecting samples representative of the matrix at the time of collection. Representativeness can be evaluated using replicate samples, additional sampling locations, and blanks.

5.1.4 Completeness

Completeness refers to the number of valid (i.e., not rejected) data points achieved divided by the total number of data points expected. For this project, completeness objectives have been established at 95 percent.

5.1.5 Comparability

Comparability is based on the use of established EPA-approved methods for the analysis of the selected parameters. The quantification of the analytical parameters is based on published methods, supplemented with well-documented procedures used in the laboratory to ensure reproducibility of the data.

5.2 Quality Assurance Quality Check Samples for Chemical Analysis

Field and laboratory QA/QC samples will be used to evaluate the data precision, accuracy, representativeness, and comparability of the analytical results. The field QA/QC samples to be collected and laboratory QA/QC procedures are detailed below.

5.2.1 Field QA/QC Samples for Chemical Analysis

One blind homogenate duplicate may be collected at the same time of sampling. Field duplicate results are used to assess the precision of the sample collection process and to help determine the representativeness of the sample. One field duplicate sample will be collected and analyzed for all organic chemicals. The field duplicate will be designated for the same analyses as the original sample and will be submitted to the laboratory blind with no indication of the associated sample.

5.2.2 Laboratory QA/QC Samples

Laboratory QA/QC samples will consist of method blanks, lab replicates, MS/MSD pairs, and surrogate compounds. The results of these laboratory QA/QC samples will provide information on the accuracy and precision of the chemical analysis, and to verify that the measured concentrations are acceptable.

Chapter 6. Reporting

The analytical laboratory results will be submitted to Trendline Environmental Chemistry, Inc. and the QA/QC data reports will be mailed, both for review and distribution to all parties.

6.1 Final Report

Trendline Environmental Chemistry, Inc. will prepare a brief written report documenting all activities associated with collection, transportation, and chemical analyses. The laboratory reports for chemical testing will be included as appendices.

At a minimum, the following will be included in the site Characterization Report:

- Summary of sampling, chemical testing, QA/QC procedures, and any deviations from the approved sampling plan;
- Tables with analytical results for chemical testing with both laboratory and validation qualifiers provided.
- A summary of QC data for chemical testing , including validation results;

Chapter 7. References

HartCrowser, 2011. Final Summary Report for Groundwater Monitoring and Remediation, Country Junction.

Bardy, Louise, 2013. Correspondence letter between Louise Bardy and Peter Hapke, Request for Additional Letter.

Environmental Technologies Group, Inc. (ETG), 2010. Re; Compliance sampling results – USTs and Dispensers Removals Country Junction Store.

Soundview Consultants LLC, 2014a. Additional information request from EPA/CORPS dated 12/05/2013. 1801 & 1851 Taylor Way – Vessel Stabilization and Moorage Facilities, Tacoma, WA (NWS-2012-186). February 4, 2014. Gig Harbor, Washington.

United States Environmental Protection Agency (EPA), 2010. *National Functional Guidelines – for Inorganic Superfund Data Review*. USEPA Contract Laboratory Program. 540-R-10-011. January, 2010. Washington, D.C.

Appendix A – Health and Safety Plan

Appendix B – Contact Information

Contracting Officer's Representative
Mr. John Park, Owner
12422 58th Ave NW
Gig Harbor, WA 98332
253-376-3056

Principal Investigator, Contractor Quality Control Supervisor, Field Manager Site Safety Officer, Data Quality Reviewer
Mr. Rick Fuller
Trendline Environmental Chemistry, Inc.
14514 Talmo Dr NW
Gig Harbor, Washington 98332
253-255-7188
rfchemist@gmail.com

Analytical Laboratory Project Manager

COUNTRY JUNCTION –PORT ORCHARD, WASHINGTON

HEALTH AND SAFETY PLAN

APRIL 11, 2018

Trendline
Environmental Chemistry

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Figures

Chapter 1. Introduction

This *Health and Safety Pla*n (HASP) presents the health and safety plan adopted by Trendline Environmental Chemistry, Inc (TEC) for the monitoring well sampling as future water sampling performed as part of the Sampling and Analysis Plan (SAP).

This *Health and Safety Plan* addresses community health and safety concerns during the performance of field work associated with the following design support activities:

- Pre-design characterization (i.e., ongoing Design Support SAP);
- Engineering data collection and analysis (EDCA);

This HASP is available for review at the Trendline Environmental Chemistry, Inc. office located at 14514 Talmo Dr NW in Gig Harbor, Washington and is included in the SP.

If additional field activities are identified during the course of the monitoring well sampling that are not covered by this HASP, as well as the State of Washington, draft addenda to this HASP to cover such additional field activities. Such addenda will be consistent with the requirements applicable to the SP-HASP.

1.1 Objective

The objective of this HASP is to protect the public health of the community during the performance of field activities required by the SP at the ground water monitoring well project. This objective is met by establishing guidelines to minimize community exposure to hazards during field activities, facilitate community awareness of the potential hazards, and plan for emergency response and responding, if necessary, to emergencies.

1.2 Site Setting

The purpose of this Sampling Plan (SP) is to obtain a "snap shot" in time of the existing petroleum contamination and environmental conditions associated with the Country Junction site located at 5310 Mile Hill Road in Port Orchard, Washington. This sampling plan has been prepared at a request of the Washington Department of Ecology (WDOE) and as such will offer laboratory support in the way of pre-cleaned sample containers, sample analysis and a data report. Trendline Environmental Chemistry will be providing the sampling and transportation of samples to the laboratory.

1.3 Schedule for Field Activities

It is currently anticipated that field activities will be performed on site during calendar years 2018 and 2019, as permitted by weather conditions and operations in the area. Field activities will typically occur Monday through Friday between dawn and dusk.

1.4 Hazard Overview

Possible hazards to the public associated with the field activities at the site include:

- Safety hazards to auto traffic who may encounter the sampling personnel;
- Spill hazards due to accidental release of fuel from the sampling
- Safety hazards to the public associated with the field staging/transfer areas;
- Noise associated with operation of the mechanical equipment that may be used for sample collection (e.g., generators, vibracoring equipment, drill rigs); and
- Inhalation hazards from sampling/survey activities.

It is not anticipated that noise and inhalation hazards will be a public safety concern during field activities.

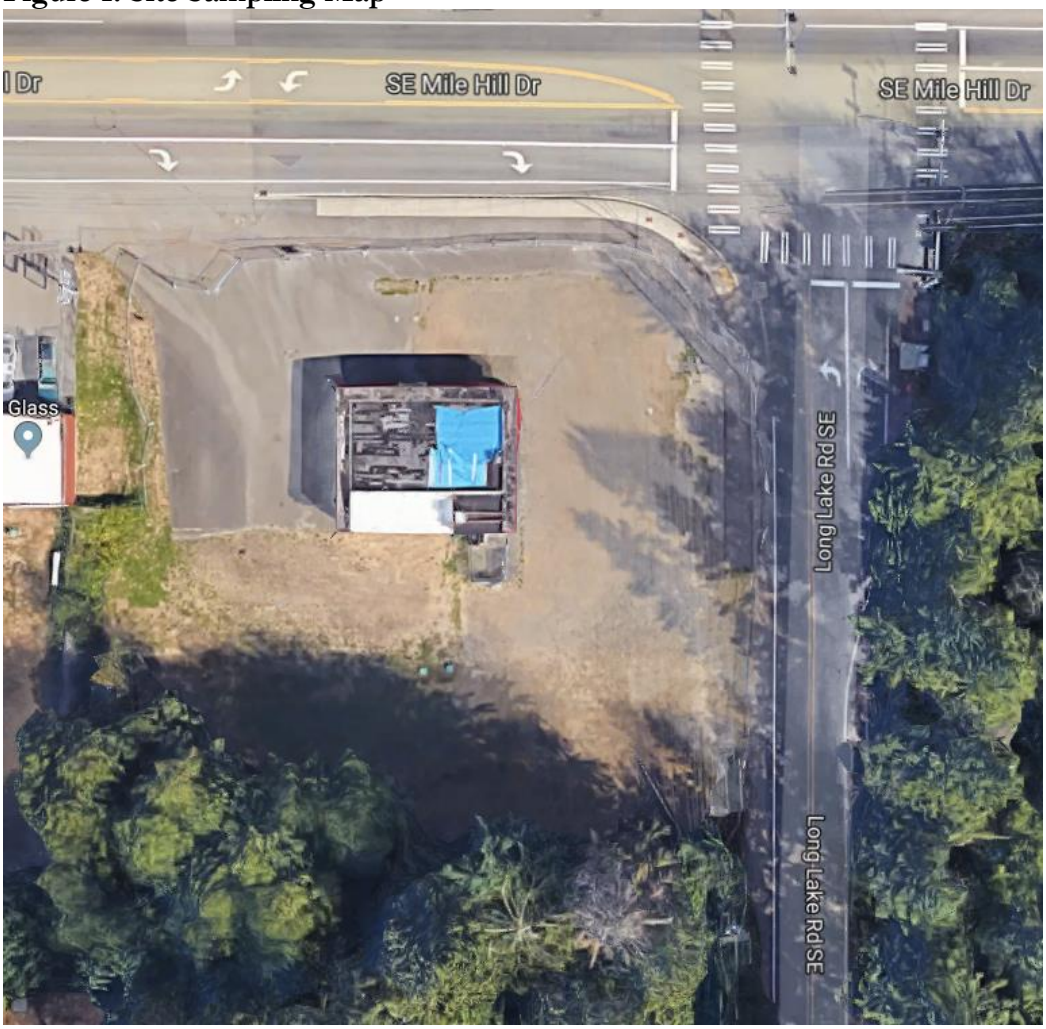
Chapter 2. Site Layout and Control Plan

Sample locations may be located by cell phone units using the local differential beacon, and they will be used to establish and record the station coordinates.

Decontaminated equipment will be wrapped or covered with aluminum foil. Subsampling and processing equipment will be decontaminated before use at each location, and between depth intervals at each location in order to prevent cross contamination of samples. Any deviations from these procedures will be documented in the field notebook.

Personal non-disposable field equipment (e.g., boots and waterproof gloves and garments) will be rinsed with water and brushed clean prior to leaving the immediate vicinity of the sample collection area. Special attention will be given to removing mud and sediments that may adhere to boot treads.

Figure 1. Site Sampling Map



Chapter 3. Control of Site Health and Safety Hazards

3.1 Control of auto traffic

The nearby roadway is a navigable and usable roadway, actively used for industrial and commercial uses. The highest levels of traffic typically occur during daylight hours; therefore, the major control will be to limit work to Monday through Friday to the extent practical. This scheduling will reduce the safety concerns associated with traffic.

3.2 Site Security

Site security will be maintained at to restrict access and potential public exposures to site hazards. Security at the staging/transfer area will be provided during the time that field efforts are being performed from the staging/transfer area. Additional security will be provided on an as-needed basis, depending on whether vandalism and/or trespass become an issue.

Chapter 4. Site Safety Personnel

4.1 Contact Information for Site Safety Personnel

Any incident requiring an emergency response will be notified to the local emergency responders. Any incident will be recorded and filed under this HASP.

Name	Telephone Number
Emergency Responders	911

0 40 80

Approximate Scale in Feet

MW-1A Monitoring Well Location and Number

N

Source: Esri and Google Earth aerial photographs, and an ETG Figure dated 10/10.

Country Junction Store
5310 SE Mile Hill Drive, Port Orchard, Washington

Site Plan

17800-03 9/11

HARTCROWSER

Figure
2

Pre-Sampling Notification Form

OR email to Nancy Rosenbower: nros461@ecy.wa.gov

Project Name: Country Junction Store _____ **SIC: J2670000**_____ ☐Enforcement

Requested by: Dale Myers_____ Sampling Date(s): 05/15/2018_____ ☒Monitoring

Program: TCP NWRO_____ Date to Lab: _____ ☐Emergency

Phone No.: (425) 649-4446_____Sample Pickup Location: drop off MEL _____ ☐Class II

Date results needed by: Standard_____EIM Study ID (if available) _FS2610_____ ☐Preliminary Invest

Reference # of QAPP: ☐Special turnaround

General Chemistry	W	S	O
Alkalinity			
Conductivity			
Hardness			
pH			
Turbidity			
☐ Fluoride ☐Chloride ☐ Sulfate			
Cyanide ☐Total ☐ Dissociable			
Total Solids			
Total Nonvolatile Solids (TNVS)			
Total Suspended Solids (TSS)			
Total Nonvolatile Suspended Solids (TNVSS)			
Total Dissolved Solids (TDS)			
Chlorophyll ☐ Filtered in field ☐ Filtered at lab			
% Solids			
% Volatile Solids (TVS)			
Total Organic Carbon			
Dissolved Organic Carbon			
Biochemical Oxygen Demand (BOD) 5 day			
BOD - Inhibited			
BOD - Ultimate			
Ammonia			
Nitrate-Nitrite			
Orthophosphate			
Total Phosphorous			
☐ TPN ☐ TKN			

Microbiology	W	S	O
Fecal Coliforms ☐MF ☐ MPN			
E. Coli MF			
E. Coli MPN			

Metals	W_T	W_D	S	O
Priority Pollutant Metals (13 elements)				
TCLP metals				
Hardness				
Mercury (Hg) ☐ Regular ☐ Low Level				
Other: List individual elements below:				
1 Sample Lead (Pb)	X	X		

Organic Chemistry	W	S	O
Base/Neutral/Acids (BNA)			
Polynuclear Aromatics (PAH)			
Volatile Organic Analysis (VOA)			
BTEX	6		
Pest/PCBs (Organochlorine)			
Pesticides only (Organochlorine)			
PCBs only			
OP - Pests (Organophosphorous)			
Herbicides (Chlorophenoxy)			
Nitrogen Pesticides			
Organochlorine Pesticides by GCMS 8270			
PBDEs			
Hydrocarbon ID (match to source)			
TPH-ID (gas/diesel/oil)			
TPH-D_x			
TPH-G_x	6		

Comments: Enter the number of samples in the appropriate box(es) above W = water S = soil/sediment O = other (please specify)
W_{TR} = water total W_D = water dissolved

Sample Container Request Form

Please **FAX** to: (360) 871-8850

Contact: Leon Weiks, Lab Assistant and Courier
Phone: (360) 871-8825 Email: lwei461@ecy.wa.gov

Please allow about 2 weeks for typical requests; longer for special requests

Requestor: Dale Myers

Project Name: Country Junction Store

Phone: (425) 649-4446

Today's Date: 04/23/2018

Location for Delivery: MEL

Date Needed by: 05/15/2018

Index #	Description	Qty.
1	1 gallon jar WM, CLR (BNA)	
2	1/2 gallon jar WM, CLR	
3	1 liter jar WM, CLR (Organics) for HCID only, no preservative	
4	1 liter jar NM, CLR w/ 1:1 HCl 15mL dropper bottle included (Oil & Grease)	
7	16 oz short jar WM, CLR	
5	8 oz short jar WM, CLR	
8	4 oz short jar WM, CLR	
34	2 oz short jar WM, CLR	
13	2 oz short jar WM, CLR, w/septum	
11	40mL vial AMB w/septum Pre-preserved with HCl	35
14	20mL vial w/acetic acid (Carbamates)	
39	1 liter glass NM, AMB (TPH-D)	
15	1 liter glass NM, AMB (All other Organics)	
16	500mL HDPE bottle w/5mL 1:1 nitric acid (Metals including **standard** level mercury)	2
17	1 gallon cubitainer (BOD)	
19	125mL Nalgene WM, CLR w/1:1 sulfuric acid (Nutrients or COD)	
20	125mL Nalgene WM, AMB (filters and syringe also required for orthophosphate)	
21	125mL poly NM, CLR (Hardness) w/ 1:1 sulfuric acid *Hexachrome request w/o acid*	

Index #	Description	Qty.
22	500mL poly WM, CLR (General Chem.)	
23	1000mL poly WM, CLR (TSS)	
24	1000mL poly WM, AMB (Chlorophyll)	
25	250mL poly NM, AMB (Cyanide)	
26	125mL poly WM, CLR w/ 1:1 hydrochloric acid (TOC/DOC or TP) □ Filters and syringe for DOC	
27	250mL poly WM, CLR (Fecal Coli)	
28	500mL poly WM, CLR (Multiple Micro Tests)	
29	250mL poly WM, CLR w/thiosulfate (Fecal Coliform - Chlorinated)	
30	500mL poly WM, CLR w/thiosulfate (Multiple Micro Tests - Chlorinated)	
31	8oz plastic jar (Grain size only)	
32	1 liter jar WM, CLR w/sulfuric acid (Phenolics)	
33	4oz sterile specimen cup (Micro - sediment)	
35	Soil VOA/BTEX Airtight Sampling Capsules (3 per sample)	
36	Soil VOA/BTEX Sampling Handle (1 per sampling event)	
37	500mL Teflon NM, CLR (low level mercury ONLY) □**Total**, Recoverable - nitric acid and no filter □**Dissolved** w/filter and nitric acid	
38	Nalgene Metals Filters 0.45um	
	Filter for metals bottle for dissolved metals	1
Other Supplies		

All containers for organics are organic free with Teflon lined lids

WM = Wide Mouth **NM** = Narrow Mouth **CLR** = Clear **AMB** = Amber

Laboratory Analyses Required

Project Name: Country Junction Store **Lab Work Order #:** 1 8 0 5 0 3 6

SIC: _ J2670000 **Program:** TCP/NWRO **Date Results needed by:** S t a n d a r d **# of coolers** 1 **EIM Study ID:** **FS2610**

Send Results to: See attached email **Mail Stop:** ____ **Project Name/Reference # of QAPP for this project:** ____

Sampling: Date (Year: 2018; Mo, Day), Time ((Military) 0001 - 2400; Hr, Mn). Manchester Laboratory Work Order Number: 1805036.

Sampling Date Mo	Day	Time Hr	Mn	Field Station Identification	Sample Number	Matrix Code	Source Code	No. of Containers	Metals: Individual Elements (please list) – Lead	Organic Chemistry: BTEX	Organic Chemistry: TPHG
				MW-1A	0 1	1 0	2 3	4		X	X
				MW-4A	0 2	1 0	2 3	4		X	X
				MW-6	0 3	1 0	2 3	4		X	X
				MW-7	0 4	1 0	2 3	4		X	X
				MW-7	0 5	1 0	2 3	2	X		
				MW-8	0 6	1 0	2 3	4		X	X
				IDW Waster drum	0 7	1 0	2 3	4		X	X

Analysis columns on the form:

General Chemistry: Alkalinity; Conductivity; pH; Turbidity; Bromide; ☐ Chloride ☐ Sulfate; Fluoride; Settleable Solids (SS); Suspended Sediment (SSC); Total Dissolved Solids (TDS); Total Solids ☐ % Sol ☐ % Vol Sol; Total Suspended Solids (TSS); TOC; DOC; BOD5; Oil & Grease; Ammonia (NH3); Nitrite/Nitrate (NO2/NO3); Orthophosphate (OP); Total Phosphorus (TP8H); TPN; Chlorophyll ☐ filters

Micro: Fecal Coliform ☐ MF ☐ MPN; Total Coliform ☐ MF ☐ MPN; E. Coli ☐ MF ☐ MPN; % Klebsiella; Enterococcus

Metals: ☐ Total X; ☐ Dissolved X; PP Mets (13 elements); Mercury (Hg) ☐ low level; Hardness; Individual Elements (please list): Lead

Organic Chemistry: VOA; BTEX; TPHG; TPHD; HCID Only (Hydrocarbon ID); PCB aroclors; PCB congeners; Pest 2 ☐ w / PCB aroclors; PESTMS; Carbamates; Herbicides; PBDE; BNA; PAH; PAH / Phthalates; PAH-SIM; PCB cong (HRMS - contract)

Project Officer: Dale Myers

Phone Number: ____

Cell Number: ____

Samplers: ____

Chain-of-Custody Record Relinquished By:	Received By:	Yr	Mo	Da	Hr	Mn	Tag # or Seal I.D.	Location/ Locker #	Comments (Condition of Seals, Temperature, Preservation, etc.)

Recorder: ____

Comments: Please perform duplicate for Total Pb. Do MS/MSD on BTEX and TPHG for sample #

Field personel will pick one well to pull 10 samples for MS/MSD, field personel will write on COC in Comments which one they chose.

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