Section 9419

Emergency Response Environmental Sampling Plan

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9419

Emergency Response Environmental Sampling Plan

9419.1 Purpose of Environmental Sampling

Through the collection and analysis of environmental samples, responders can uncover valuable data needed to inform decisions related to response tactic deployment, determining cleanup endpoints, and fisheries management. During a response, environmental sampling is need to answer a variety of questions for example:

- What is the source of the spill?
- Is the water body, surface or groundwater, of acceptable quality for drinking, swimming, irrigation, fish consumption, or a designated beneficial use?
- Is water quality improving or worsening?
- Is oil migrating?
- Is oil present/absent from water?

This section contains guidance and plan templates to ensure samples are collected in a consistent, standardized manner such that sampling results can support decision making during a response. All sampling fieldwork is to be conducted in accordance with the Safety Plan developed for the response.

9419.1.1 Quality Assurance/Quality Control

To maintain a high quality of sampling and analysis, the sampling plan should support measures for quality assurance (QA) and quality control (QC) such as auditing of the process during the response. Key elements of a sampling approach during a response that should be continuously measured for QA/QC should include:

- Personal safety as a top priority;
- The start and continuation of a sampling plan;
- Use of appropriate procedures;
- Emphasis being put on documentation;
- Collection of representative samples;
- Sample contamination prevention;
- Proper sample preservation; and
- Chain-of-Custody (COC) maintenance.

9419.1.2 Data Sharing

Implementation of a sampling plan should also result in data sharing agreements that would:

- Reduce compartmentalization and isolation of information with Incident Command System (ICS) units and sections;
- Ensure all parties understand responsibilities, methods, and resources available;
- Maintain information continuity over time regardless of personnel changes;
- Provide the basis for periodic review, evaluation, and updating of procedures; and
- Ensure the proper archival of data for post-incident retrieval and analysis.

9419.1.3 Public Information

Sampling results should be shared and could be reported on the spill response website after data quality checks and review.

9419.2 Templates

There are two templates included in this section. The first is intended to be used in the early phase of the response when the details are not known but samples need to be collected. The second template is intended for use later in the response when more information on the spill and receptors is known.

9419.2.1 How to Use These Templates

The major headings of this document are suggested for the completion of a sampling plan. A sampling plan is not required to follow the formats suggested in the following suggestions; however, it should contain the content and detail commensurate to the scale (size or sensitivity/threat) of the response. Sampling plan templates may be customized to match organization structures, capabilities, and the availability of field teams during the operational period for which the plan is to cover.

Instructions, suggestions, and pre-populated information are printed in *italics* in the following sections. Delete and replace these instructions following completion. Rewrite suggested text to fit the incident and organization-specific needs.

To facilitate rapid planning, some tables are pre-populated with examples or common information that may be relevant to an emergency response scenario. To complete tables, delete irrelevant examples and add further information as dictated by the incident.

Values presented in the tables should be verified and adjusted to meet the expectation and capabilities of various response organizations, receiving analytical laboratories, and local response agencies.

Reference checklist sections and attachments for supporting details and information to create a sampling plan are provided.

After completion, review the template as a whole with all parties involved, including the Field Sampling Team Supervisors, to evaluate clarity and address potential gaps. After finalized, route the sampling plan through Incident Command for approval and integration into the Incident Action Plan.

Retain this document for continuing emergency operations. Information assembled here may be used to create additional site documents and ICS planning forms.

INITIAL INCIDENT CHARACTERIZATION SAMPLING AND ANALYSIS PLAN

Incident Name: _____
Responsible Party: _____
Spilled Material: _____
Spill Location: _____
Spill Date/Time: _____
Spill Source (vessel, vehicle, etc.) _____

This sampling plan has been prepared by the Planning Section at the request of Incident Command. The purpose of this plan is to quickly begin characterization of the release to support site response operations and develop information that will inform the subsequent response phases/operational periods. Additional sampling and analysis plans may be created to support complicated or larger responses, provide data for health and safety plan development, the monitoring of responder and community health, and/or waste management and disposal operations. This plan is purposefully brief, with the intent of facilitating initial site characterization sampling efforts during the early hours of a response, in accordance with the timing goals in the Northwest Area Committee's (NWAC) 96-Hour plan.

This plan does not cover health and safety aspects of sample collection, or safely accessing field locations to collect samples. All field work is to be conducted in accordance with the Health and Safety Plan (HASP) developed for the response. Confined space entry and on-water work should not be conducted until the HASP can be reviewed, and until authorization is obtained from the Safety Officer.

Once approved by Unified Command and incorporated with the Incident Action Plan, this plan will remain in force until superseded by a newer version of the cessation of response activities.

Plan Authorization	**Signature**	**Date**
Approved by USCG/EPA:		
Approved by Ecology/ODEQ/IDEQ:		
Approved by Responsible Party		
Approved by Local Government Representative:		
Approved by Tribal Government Representative:		
Drafted and Submitted for Approval by:		
Operational Period to Initiate Sampling		

Section I Site Characterization Sampling Organization

This section describes the key roles and personnel assigned for organization and implementation of this plan. The staff are typically stations in the Incident Command Post within the Planning and Operations Sections. The overall purpose of the staff assigned to create and implement the plan is to facilitate the safe and efficient collection of samples and to provide the analytical data to support the response.

Sampling Technical Specialist

The Sampling Technical Specialist is responsible for creating the field sampling plans, including this Initial Incident Characterization Sampling and Analysis Plan, and any needed updates throughout the response. The Sampling Technical Specialist is located within the Planning Section (or Environmental Unit) and works with others in the Planning and Operations Sections to adjust field sampling plans to provide information to support upcoming site operations. The Sampling Technical Specialist is responsible for monitoring the progress of sample analysis at the designated laboratory(ies), making arrangements for receipt of data, and making the data available within the response organization.

Field Sampling Group Supervisor

The Field Sampling Group Supervisor is responsible for working with the Field Sampling Team(s) to arrange for access to the areas needed to be sampled, and the means to access the site(s). The Field Sampling Group Supervisor works within the Operations Section, and may have other responsibilities to that section.

Field Sampling Team Leader

The Field Sampling Team (or Task Force) Leader is responsible for the sample collection, documentation (including time and location), preservation, and preparation of shipment. The collection of samples may be divided geographically (by divisions or proximity to the release point), media to be samples (air, water, soil, sediment, product, etc.), or means of access (boat versus shoreline).

	Name	ICS Position/Agency/ Organization
Sampling Technical Specialist		
Sampling Group Supervisor		
Field Sampling Team(s) Leader		

Section II Sampling Schedule

This section describes how the general schedule for initial sample collection, including when the sampling is to be initiated. This schedule will be modified/incorporated into subsequent sampling plans, if developed.

Project Schedule

Activity	Est. Start (Time/Date)		Est. End (Time/Date)		Notes
Mobilize to Site					
Sample Collection					
Transport to Lab					
Laboratory Analysis (turnaround time)					
Data Received by the Environmental Unit					

Section III General Sampling Program Description

This section describes the general sampling purpose and design, followed by a table summarizing the samples (by media) to be collected, means of collection, and sample handling/custody and destination.

Surface water and shoreline sediment grab samples are to be collected to document the extent of contamination originating from the City Outfall Spill. Surface water samples will be collected beginning at the outfall source area and every 0.5 mile downstream to the end of visible contamination, concentrating on areas of maximum sheen. Shoreline sediment samples will be collected from areas with obvious signs of oiling/or sheen on both sides of the river, beginning near the source area and moving downstream. Sediment samples will be collected at least every 0.5 mile to the end of visible contamination. All sample will be analyzed using Northwest Total Petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID), with follow-up analysis for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

Media to Be Sampled or Monitored	Source Product	Surface Water	Sediment	Oiled Debris	Source Area Air Quality	Community Air Quality	Other (describe)
Approximate # of samples							
Type of Sample (continuous, discrete, composite)							
Sample Collection Method							
Quality Control Sample/Type							
Means of Access (boat, shoreside, etc.)							
Team Name(s)							
Transportation							
Laboratory Name (or Field Analysis/Screening)							

Section IV Sample Collection, Labeling, and Documentation

The United States Environmental Protection Agency *Contract Laboratory Program Guidance for Field Samplers* (EPA-540-R-014-103, October 2014) and the *Guidance for Collecting High Priority Ephemeral Data for Oil Spills in the Arctic* (NOAA/RPI 2014) provides descriptions of field sampling methods, as well as QA/QC guidance. Samples collected will be documented on the Sample Collection Form provided, or a suitable substitute will be used. The Sample Collection Form also specifies the sample labeling format and sample location documentation requirements. A formal COC shall be maintained for all samples collected. If the laboratory cannot supply or does not require a specified COC, then the provided NWAC COC will be used.

Section V Map of Area(s)/Features to be Sampled

Insert map or sketch showing sampling area(s).

ENVIRONMENTAL SAMPLING AND ANALYSIS PLAN

(Incident Name and Location)
(Date)
(Operational Period)

Submitted by Environmental Unit Leader: _____
Date: _____
Printed Name: _____

Plan Authorization/Approval

Title	Signature	Date
Federal On-Scene Coordinator (USCG/EPA):		
Printed Name		
State On-Scene Coordinator:		
Printed Name		
Responsible Party Incident Commander		
Printed Name		
Local Government On-Scene Coordinator		
Printed Name		
Tribal Government On-Scene Coordinator		
Printed Name		

1.0 Introduction and Purpose

This plan has been prepared by the Planning Section at the request of the Incident Command/Unified Command. This emergency response Sampling and Analysis Plan is intended to be used during the emergency phase during oil spills, pollutant, or chemical releases, where monitoring and/or environmental sampling may be required. The purpose of this plan is to characterize the release to support the site response operations, and develop information that will inform the subsequent response phases/operational periods.

This sampling plan will direct the monitoring, sampling, and analytical work for a specific Operational Period. It is meant to be used in emergency responses where more detailed or larger-scaled monitoring and sampling efforts are to be conducted by Field Sampling Teams (hereafter referred to as Field Teams). This sampling plan may incorporate the Initial Incident Characterization Sampling and Analysis Plan, which is intended to guide the early collection of environmental samples during a response on an expedited timeframe and when most of the Incident Command resources have not yet mobilized to the site. This plan is not meant to support Natural Resources Damage Assessment operations.

The development of this plan will improve the documentation, communication, planning, and overall quality associated with the sampling by:

- Ensuring Field Team(s) understand the goals and objectives of the sampling to be conducted before the generation of environmental data;
- Documenting methodologies to be utilized in the collection and handling/preservation of samples;
- Documenting predetermined information in a standardized format;
- Increasing the communication between sampling personnel and decision makers; and
- Assuring that data quality objectives (DQOs) and QC measures are in place to result in the generation of accurate and defensible data.

This Environmental Sampling and Analysis Plan describes the sampling strategy and techniques, as well as the analytical methods that will be employed at the site for the collection of environmental samples, including surface water, groundwater, soil, sediment, and air samples. The information contained in this plan is based on the information available at the time of preparation. This plan will be updated as necessary to reflect new site information, address different objectives or decision points, and support incident response/cleanup operations.

Once approved by Unified Command and incorporated into the Incident Action Plan, this plan will remain in force until superseded by a newer version or the completion of response activities.

1.1 Sampling Objectives

The objectives of this sampling event include:
List all objectives for sampling. These objectives should be based on the Incident Command/Unified Command objectives.

Delete the rows that do not apply. These are common examples, modify as necessary for site-specific project goals.

- Sampling to determine the presence or absence of a hazardous substance within the area of concern;
- Sampling to characterize hazardous substances within the area of concern;
- Sampling to estimate contamination levels within the area of concern;
- Sampling to delineate contamination area(s) within the site;
- Sampling to determine the location of hot spots within the area of concern;
- Sampling to confirm contamination migration from the site;
- Sampling to delineate the degree of contamination migration from the site;
- Sampling from existing surface water intakes to determine if contamination is migrating from the site;
- Sampling off-site to determine general background concentrations;
- Support Unified Command decision-making regarding cleanup endpoints;
- Ensure sampling is repeatable;
- Collect product samples related to an oil spill for characterization and fingerprinting;
- Air sampling within the area of concern to determine contamination levels;
- Perimeter air sampling to determine contaminant concentration levels;
- Air sampling for site safety of on-site personnel; or
- Downwind air sampling.

1.2 Project Schedule

This section describes the general schedule for sample collection, including when the sampling is to be initiated. This schedule will be updated as needed.

Activity	Est. Start (Date/Time)	Est. Completion (Date/Time)	Notes
Mobilize to the site			
Confirm sampling methods			
Sample collection			
Laboratory receipt of samples			
Demobilization from the site			
Laboratory analysis			
Data received by EU			
Data validation			

2.0 Project Organization and Responsibilities

This section describes the key roles and personnel assigned for organization and implementation of this plan. The staff are typically stationed in the Incident Command Post within the Planning and Operations Sections. The overall purpose of the staff assigned to create and implement the plan is to facilitate the safe and efficient collection of samples and to provide the analytical data to support the response.

Title	Name	Organization	Email and Phone Number	Data Recipient (Y/N)
Federal On-Scene Coordinator				
State On-Scene Coordinator				
Tribal Government On-Scene Coordinator				
Quality Assurance Coordinator				
Analytical Coordinator				
Data Manager				
Field Sampling Group Supervisor				
Field Sampling Team Lead				
Sampling Technical Specialist				

3.0 Safety

This plan does not cover health and safety aspects of sample collection, or safely accessing field locations to collect samples. All field work is to be conducted in accordance with the HASP developed for the response, including an understanding of the materials that have been released from the Safety Data Sheets. Confined space entry and on-water work will not be conducted until the HASP can be reviewed, and authorization is obtained from the Safety Officer.

Add all safety messages here. The following are examples:

- Safety is the number one priority for all aspects of this plan. Sampling should not be attempted in any location it is unsafe to do so. Safety is of greatest concern. Be aware of physical and chemical hazards at the site. Obtain a safety briefing prior to entering the exclusion zone. Do not enter confined spaces unless they have been determined to be safe. Special care should be paid to the traffic, physical, and chemical hazards outlined the HASP. Individuals collecting samples should use care entering the spill site. Sampling should be conducted in accordance with the approved HASP.
- Slips, trips, and falls from steep slopes, rocks, and vegetation are safety hazards to workers conducting sampling.
- Proper personal protective equipment must be worn at all times by all workers on site in accordance with the approved HASP.

4.0 Incident Location and Background Information

Incident Name:	
Incident Address:	
Latitude:	
Longitude:	

- *Provide a short description of the incident to support the needs for a sampling plan (include spill materials, spill source).*
- *Discuss the site and any known information.*
- *Provide information of the general site setting.*
- *Describe decision areas if they are applied to the site.*
- *Discuss on-site features.*
- *Discuss surrounding land uses.*
- *Provide a site map.*

5.0 Contaminants of Concern and Action Levels

Provide an overview of the contaminants of concern for the site. List compounds in narrative or tabular format that may pose a threat to human health and the environment relevant to the incident. This section should be comprehensive.

Potential contaminants of concern for the site, action levels, transport mechanisms, and potential receptors are provided in the table below.

Contaminant	Transport Mechanism	Receptor	Action Level (Specific to Receptor)
Mercury, arsenic, lead	*Contaminated soil migrating to surface waterbodies*	*Environmental targets such as wetlands and/or federally listed threatened and endangered species*	
Volatile organic compounds (VOCs)	*Contaminants in subsurface soils leaching to groundwater and/or surface water*	*On-site water flows to a nearby river where fishing occurs. Residents consuming water*	

For contaminants without established action levels, complex mixtures, or unknown constituents and composition, provide a narrative description and working action level with justification for the selection of the action level.

6.0 Sampling Approach

The Environmental Unit (EU) established sample points on and near the incident to evaluate conditions at the site and surrounding areas. This section describes the general sampling approach, followed by a table summarizing the samples to be collected, and a map depicting the sample locations.

Example sampling approach:
Surface water samples are to be collected to document the extent of contamination originating from the City Outfall Spill. Surface water samples (upper 2 centimeters of the water column) will be collected beginning at the outfall areas and every 0.5 mile downstream to the end of visible contamination, concentrating on the maximum sheen. Access to the sampling site will be by boat. All samples will be collected directly into

pre-preserved sampling containers. Samples will be analyzed using NWTPH-HCID with follow-up analysis for VOCs and SVOCs.

Matrix	Sample Location(s)	Sample Name(s)	Sample Team Name	Sampling Pattern (Random/Targeted)	Sample Type (Grab/Composite)	Field QC (Duplicate/Blank)	Number of Field Samples	Analytical Parameter/Method Description and Number	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container per Sample	Total Number of Sample Containers (Lab and Field)	Laboratory Name
Water								*Gasoline Range Organics/NWTPH-Gx/GC-FID*		*14 days*	*pH ≤2 with HNO_3*	*3x40 mL glass amber with Septa lid*		
Water								*Diesel Range, Residual Range, & Motor Oil Range Organics/NWTPH-Dx/GC-FID*		*14 days to extraction, 40 days to analysis*	*NA*	*2x32 ounce glass amber 6x32 ounce glass amber for MS/MSD*		
Soil/Sediment								*Gasoline Range Organics/NWTPH-Gx/GC-FID*		*To the lab within 48 hours of collection or freeze in field*	*NA or Freeze in field*	*3xCore-N-One +1x2 ounce glass jar 9xCore-N-One + 1x2 ounce glass jar for MS/MSD*		
Soil/Sediment								*Diesel Range, Residual Range, & Motor Oil Range Organics/NWTPH-Dx/GC-FID*		*14 days to extraction, 40 days to analysis*	*NA*	*1x8 ounce glass jar*		

Key:
°C = degrees Celsius
FID = Flame ionization detector
HNO_3 = nitric acid
NA = not applicable
NWTPH-Dx/GC = Northwest Total Petroleum Hydrocarbon Diesel/Gas chromatograph
NWTPH-Gx/GC = Northwest Total Petroleum Hydrocarbon/Gas chromatograph
QC = quality control

Typical environmental laboratory analyses in the Northwest Area are included as a Sampling Plan Attachments that will aid in the completion of this table.

6.1 Sample Methodology

All field samples are to be collected in accordance with United States Environmental Protection Agency and/or National Oceanic and Atmospheric Administration accepted methods and protocols. The following Standard Operating Procedures (SOPs) and/or instrumentation manuals will be used during the project.

- *Create a list of applicable SOPs.*

Samples collected will be documented on the Sample Collection Form provided in Attachment A. A formal COC will be maintained for all samples collected for the project. If the laboratory to be used cannot supply or does not require a specific COC, then the COC provided in Appendix B will be used.

Field teams should always reference standard quality procedures, SOPs, and standard methods for sampling and analytical guidance.

6.1.1 Sample Nomenclature

Develop a systematic naming convention for all sampling activities. Ensure that each sample is uniquely identified to a specific geographic location. Record addresses and/or latitude/longitude for each sample location. An effective naming convention will allow more sample locations to be added throughout a response. Design a sample nomenclature plan that follows your agency's policy and procedures.

6.1.2 Sample Management

Develop a plan to manage sample preservation, documentation, holding and packaging/shipping of samples, including how to maintain COCs, how and where to deliver the samples, and how to manage the paperwork. Example language:

Proper sample management is required to make sound response decisions. The following action will be taken to manage samples from collection of analysis:

- COC documentation will be recorded for all samples collected. A copy of the COC forms will be placed in a binder stored in the EU, with a copy provided to the Documentation Unit.
- All samples collected by all Sample Teams are to be properly stored until delivered to sample processing and the laboratory.
- Copies of all preliminary and final sample results will be maintained in the sample binder in the EU with a copy provided to the Documentation Unit. The results will also be provided to the EU Leader electronically as soon as they are received.
- A Technical Specialist will be appointed to review and summarize sampling results and create a summary of results, noting any exceedances of preliminary screening criteria, issues with established QA/QC measures, and an update provided to Unified Command of the schedule established in Section 1.2 of this document.

6.1.3 Sample Transport

All samples will initially be analyzed with a *8, 12, 24,* turnaround time (TAT). As the cleanup progresses, EU may recommend moving to a standard 2-week TAT. This plan will be updated as needed to reflect TATs.

7.0 Data Management

The bullet list below is suggested DQOs for the project. Delete or update as necessary.

All field data will be managed in accordance with the Data Management Plan as outlined in Section 9 of this document. Data generated will:

- Be compared with a background or reference sample;
- Be compared to an available screening level;
- Assist in determining the presence or absence of a hazardous substance at levels above an available screening level;
- Assist in determining the area of impact due to a hazardous substance release (i.e., horizontal or lateral extent of contamination);
- Be compared with a site-specific action level;
- Be compared with federal or state occupational health limit (e.g. Occupational Safety and Health Administration);
- Be compared with a Resource Conservation Recovery Act (RCRA) or other regulator limit on waste;
- Be used to profile a water material for off-site disposal or treatment; and
- Assist with determining a material's general hazard classification.

7.1 Data Reporting

The following deliverables will be developed using the data obtained. Deliverables will be coordinated with the EU Leader and Incident Command/Unified Command.

Deliverables				
Reporting Task	**Data Inputs**	**Format**	**Frequency**	**Responsibility**
Sample Result Reports	*Water, soil, and/or sediment analytical results*	*Tabular [.xlsx]*	*Daily*	*Data Manager*
Situational Reports	*Photographs, Field reports, Sampling Results*	*Document [.docx]*	*Daily*	*Data Manager*

8.0 Data Quality

The bulleted list below is suggested language. Update to fit the response and your agency policy and procedures.

Data can generally be divided into three categories: definitive methodology (generally data generated utilizing standard methodology), non-definitive methodology (also referred to as screening data), and screening data with at least 10% definitive confirmation. The generation of definitive data is preferable; however, in an emergency or time-critical situation, where definitive data is not

available, or for certain types of monitoring equipment, non-definitive data may be generated. The following DQOs will be applied to the project:

- Definitive data which may include air, water, soil, and/or sediment samples analyzed at an off-site fixed laboratory;
- Screening data from the following instrument (*provide a list of instrumentation)*; and
- Screening data with at least 10% definitive data from *(provide a list of matrices for which off-site fixed lab confirmation samples will be submitted including the matrix)*.

8.1 Data Quality Objectives

A well-constructed DQO includes the activity, criteria for making a decision, and describes the action after a decision is made. Add, delete, or update the bulleted list below to fit the response and your agency policy and procedures.

The DQOs for the projects are:

- Acquire data that can be reliably used to make decisions regarding the release and presence of site contamination;
- Characterize sources;
- Determine off-site migration of contaminants; and
- Document any threats or potential threats that the site poses to public health or the environment.

8.2 Quality Assurance/Quality Control

Write in narrative format the steps and considerations to establish robust QA/QC for incoming and published data. As appropriate, identify predetermined standards for data verification, analysis, and reporting.

QA/QC may be organized into functional activities with suggested QA/QC procedures.

Real-Time Monitoring/Field Screening

- Co-located sampling for analytical analysis may be conducted, if necessary, to assess accuracy and precision to the field screening/monitoring methods employed.
- Field Team meetings will be conducted daily to ensure data is correctly collected and meets applicable DQOs.

Sampling and Analytical Results

- COC documents will be completed for each sample.
- The laboratory will provide definitive data. The data will be reviewed and assessed for representativeness, comparability, completeness, precision, and accuracy. Field sample QC will be evaluated, including laboratory-supplied surrogates, trip blanks, field blanks, filter blanks, rinsate blanks, and field duplicates, as described in this plan.

- Laboratory QC samples (blanks, duplicates, and matrix spikes) will be analyzed to assess laboratory performance.

Data Reporting and Deliverables

- Daily Data Summaries may be provided for informational purposes using data that have not undergone complete QA/QC.
- Comprehensive reports of real-time and/or analytical data may be generated following QA/QC.
- The final data for the project will be used to verify project objectives. Standard laboratory reporting limits are acceptable as indicated in the analytical table.
- The DQO process applied to this project follows that descried in the *Guidance on Systematic Planning Using the Data Quality Objectives Process/G-4* (EPA 2006).

9.0 Data Management Plan

The table on the following page should be updated as necessary. Most all sites will have site files, photographs, and sampling information if this template is being used. Include instrumentation that is being used on the project and how that data will be managed.

All field data will be managed in accordance with the following Data Management Plan.

Data Source	Required Information	Processing Instructions	Processing Frequency	Processing Responsibility	Storage Location	Final Output (file format)
Site Documents	*Site files, Sampling Plan, HASP, sample collection forms*	*File hard copies in EU, provide a copy to the Documentation Unit*	*Beginning of project and as files become available*	*Project Coordinator*	*Digital: Hard copy: EU & Documentation Unit*	*Documents [.docx, .pdf]*
Digital Photographs	*Date, time, direction, location, description, photographer*	*Photos will be downloaded from field cameras and stored in the site files.*	*Daily*	*Data Manager*	*EU*	*Photos [.jpg], Photographic log [.xlsx or .docx]*
Sample Information	*Sample number, Date, Time, Sampler, Location, Matrix*	*Record data onto field forms, file hard copies in EU provide a copy to the Documentation Unit*	*Daily or as records are produced*	*Data Manager*	*EU*	*COCs, sample labels, maps, tabular reports*
MultiRAE Pro	*Instrument ID, Monitoring location, Monitoring Time, Monitoring Date, Reading, Units*	*Data will be downloaded from the unit as prescribed by the manufacturer*	*Daily*	*Equipment Manager*	*Raw Data: EU Processed Data: EU copy to the Documentation Unit*	*Tabular reports [.xlsx]*

Key:
COC = Chain-of-Custody
EU = Environmental Unit
HASP = Health and Safety Plan

Sampling Plan Attachments

Sample Collection Form

Northwest Area Committee

Incident Name:	**Operational Period:**
Field Sampling Team Lead Information	**Contact Information (Sampling Tech Specialist in ICP)**
Contact/Mobile Phone:	**Contact/Phone:**
Affiliation/Email:	**Affiliation/Email:**
Team Members:	**DOC Section Email:**
Sampling Objective (from Sampling Plan)	**Sampling Conditions/Notes** (notes on individual samples below)

Sample ID *Location Code/Matrix/ Depth Interval/2-Digit Sample Code (Example COL-SW-0-02 for Columbia River, Surface Water, Depth 0, Sample #2)*	**Sample Date** *(mm/dd/yyyy)*	**Sample Time** *(24-hr local)*	**Matrix** *(e.g., water, soil, product)*	**Preserved** *Y / N*	**Type** *(e.g., Grab/ Composite/ trowel, etc.)*	**Sampling Method** *(e.g., bailer, direct, etc.)*	**Sample Location** *Latitude / Longitude in decimal degrees (ex: xx.xxxxx/-yyy.yyyyyy)*	**Container Type** *(ex. 1-liter amber)*	**# Containers**	**Sample Notes** *Note any filtration, problems with sample, etc.*

Sampling Lead Signature		**Form #**		**of**		**Cooler ID:**		**ICED:**	**Y / N**

Chain-of-Custody Form

Northwest Area Committee

Field Sampling Team Lead Information	Contact Information (Sampling Tech Specialist in ICP)
Contact/Mobile Phone:	**Contact/Phone:**
Affiliation/Email:	**Affiliation/Email:**
Incident/Project Name:	**Lab Report Email To:**

Laboratory Information	Analyses Requested	Cooler
Laboratory:		**ID:** **ICED: Y / N**
Lab Contact Name:		**COC#** **of**
Lab Phone/Email		

Sample ID (record location, description, etc. in field book or sampling form)	**Sample Date** (mm/dd/yyyy)	**Sample Time** (24-hr local)	**Matrix** (water, soil, product)	**Preserved Y / N**	**Type** Grab/Composite/etc.							**# Containers / Type**	**Turnaround Time** (or hold)	**Comments** Include preservative type, control samples, if used.

Samples Relinquished By				Samples Received By			
Date	**Time**	**Signature**	**Name** (printed)	**Date**	**Time**	**Signature**	**Name** (printed)

Special Instructions:

Typical Environmental Laboratory Analyses in the Northwest Area

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)
Hydrocarbon Identification/NWTPH-HCID	Solid	20 mg/kg – Gasoline 50 mg/kg - #2 Diesel 100 mg/kg – Motor Oil	14 days	NA	1 x 8 ounce glass jar
	Liquid	0.25 mg/L – Gas 0.63 mg/L – Diesel and Motor Oil	14 days	pH ≤2 with HCl	2 x 32 ounce glass amber
Diesel, Residual Range & Motor Oil Range Organics/NWTPH-Dx	Solid	40 mg/kg – Diesel 100 mg/kg – Other	14 days to extraction 40 days to analysis	NA	1 x 8 ounce glass jar
	Liquid	250 µg/L – Diesel 500 µg/L – Other	14 days to extraction 40 days to analysis	NA	2 x 32 ounce glass amber
Gasoline Range Organics	Solid	20 mg/kg	To the lab within 48 hour of collection or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	250 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Oil & Grease/EPA 9071B and 1664A	Solid	1 mg/kg	ASAP – Not established	2 mLs HCl and mix	1 x 8 ounce glass jar
	Liquid	5 mg/L	28 days	pH ≤2 with HCl	1x32 ounce glass amber
BTEX/EPA SW-846 8240	Solid	5 – 10 µg/kg	To the lab within 48 hour of collection or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	0.5 – 10 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Petroleum Hydrocarbons/EPA SW-846 8015D	Solid	1 mg/kg			
	Liquid	50 µg/L			
Volatile Organic Compounds/EPA SW-846 8260	Solid	5 mg/kg	To the lab within 48 hours or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	0.5 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Semivolatile Organic Compounds (including PAHs)/EPA SW-846 8270	Solid	67 – 330 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	0.1 – 10 µg/L	14 days	NA	2x32 ounce glass amber
Paraffins, Isoparaffins, Aromatics, Napthalenes, & Olefins(PIANO)	Solid	40 mg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	1 µg/L	14 days	pH ≤2 with HCl	2x40 mL amber glass with septa lid
Chlorinated Herbicides/EPA SW-846 8151	Solid	0.1 – 70 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	0.1 – 1.5 µg/L	7 days	NA	2x32 ounce glass amber
Chlorinated Pesticides/EPA SW-846 8081	Solid	2 – 170 µg/kg	14 days	NA	1x8 ounce glass jar

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)
	Liquid	0.05 – 5 µg/L	7 days	NA	2x32 ounce glass amber
Polychlorinated Biphenyls/EPA SW-846 8082	Solid	33 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	1 µg/L	7 days	NA	2x32 ounce glass amber
Dioxins & Furans/ EPA SW-846 8280/8290	Solid	1 – 10 ng/kg	NA	NA	1x8 ounce glass
	Liquid	10 – 100 pg/L	NA	NA	2x32 ounce glass amber
Metals (not including mercury, hexavalent chromium, includes RCRA and Priority Pollutant Metals)/EPA SW-846 6000/7000 Series	Solid	0.5 – 2.5 mg/kg	6 months	NA	1x8 ounce glass jar
	Liquid	1 – 500 µg/L	6 months	pH ≤2 with HNO_3	1x1 L polyethylene
Mercury (may be combined with metals analysis)/EPA SW-846 7471B/7470A	Solid	0.1 mg/kg	28 days	NA	1x8 ounce glass
	Liquid	0.2 µg/L	28 days	pH ≤2 with HNO_3	1x1 L polyethylene
Ammonia/EPA 350.1	Liquid	0.01 mg/L	28 days	pH ≤2 with H_2SO_4	1x32 ounce glass amber
Grain Size/ASTM D-422	Solid	0.05 mm	NA	NA	2x8 ounce glass jar
Total Dissolved Solids/EPA 160.1	Liquid	20 mg/L	7 days	NA	1x250 mL
Total Kjeldahl Nitrogen (TKN)/EPA 351.2	Liquid	0.5 mg/L	28 days	pH ≤2 with H_2SO_4	1x500 mL
Total Organic Carbon (TOC)/ PSEP-TOC & SM 5310B	Solid	20 µg C	6 months	Freeze to -20°C	1x2 ounce glass jar
	Liquid	1 mg/L	28 days	pH ≤2 with HCl, H_2SO_4, or H_3PO_4 (check with your lab prior to sample preservation)	1x500 mL
pH/EPA 9040	Liquid	NA	Immediately	NA	1x250 mL glass
pH/EPA 9045	Solid	NA	As soon as possible	NA	1x4 ounce clear glass
Salinity/SM 2520B	Liquid	NA	28 days	NA	1x250 mL HDPE
Anions/EPA 300.0	Liquid	0.04 – 0.03 mg/L	Bromate – 28 days Bromide – 28 days Chlorate– 28 days Chloride– 28 days Chlorite - Immediately Fluoride– 28 days Nitrate as Nitrogen – 48 hours Nitrate/Nitrite– 28 days Nitrite as Nitrogen– 48 hours Ortho-Phosphate-p– 48 hours Sulfate– 28 days	NA NA NA NA NA NA pH ≤2 with H_2SO_4 NA NA NA NA	1x500 mL

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)

Key:
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
BTEX = benzene, toluene, ethylbenzene and xylene
EPA = United States Environmental Protection Agency
HDPE = high-density polyethylene
L = liters
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mm = millimeters
NA = not applicable
ng/kg = nanogram/kilogram
NWTPH-Dx = Northwest Total Petroleum Diesel
NWTPH-HCID = Northwest Total Petroleum Hydrocarbon Identification Analytical Method
PAH = Polycyclic aromatic hydrocarbon
pg/L = picogram/liter
RCRA =Resource Conservation and Recovery Act