## 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.

### 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).*

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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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:** | | | | | | | | | |  |  |  |  |  |  | **# Containers / Type** | **Turnaround Time** (or hold) | **ID:** | **ICED: Y / N** |  |
| **Lab Contact Name:** | | | | | | | | | | **COC# of** | | |
| **Lab Phone/Email** | | | | | | | | | | **Comments** Include preservative type,  control samples, if used. | | |
| **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.** |
|  | | |  |  | |  | |  |  |  |  |  |  |  |  |  |  |  | | |
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| **Samples Relinquished By** | | | | | | | | | | **Samples Received By** | | | | | | | | | | |
| **Date** | **Time** | **Signature** | | | **Name** (printed) | | | | | **Date** | | **Time** | | **Signature** | | | | **Name** (printed) | | |
|  |  |  | | |  | | | | |  | |  | |  | | | |  | | |
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| **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℃ ± 2℃) | 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 |
|  | 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 HNO3 | 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 HNO3 | 1x1 L polyethylene |
| Ammonia/EPA 350.1 | Liquid | 0.01 mg/L | 28 days | pH ≤2 with H2SO4 | 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 H2SO4 | 1x500 mL |
| Total Organic Carbon (TOC)/ PSEP-TOC & SM 5310B | Solid | 20 µg C | 6 months | Freeze to -20℃ | 1x2 ounce glass jar |
|  | Liquid | 1 mg/L | 28 days | pH ≤2 with HCl, H2SO4, or H3PO4 (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 H2SO4  NA  NA  NA  NA | 1x500 mL |
| 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 | | | | | |