Table 2-1 Proposed Schedule

|  |  |  |
| --- | --- | --- |
| **Activity** | **Start Date** | **Completion Date** |
| Collect pertinent background information | 1/202017 | 8/11/2017 |
| Mobilize to the site | 9/25/2017 | 9/25/2017 |
| Sample collection activities | 9/25/2017 | 9/29/2017 |
| Laboratory receipt of samples | 9/27/2017 | 10/3/2017 |
| Demobilization from the site | 9/30/2017 | 9/30/2017 |
| Laboratory analysis | 9/27/2017 | 10/31/2017 |
| Data validation | 11/1/2017 | 11/29/2017 |
| Writing of the draft project report | 10/2/2017 | 1/10/2018 |
| Responding to EPA comments and submittal of final report | 1/17/2018 | 1/24/2018 |
| Target project completion date |  | 1/31/2018 |

3-2 Sample Information Summary

| **Project Sampling Schedule a** | **Design Rationale** | **Sampling Design Assumptions** | **Measurements Classification (Critical/Noncritical)** | **Nonstandard Method Validation** |
| --- | --- | --- | --- | --- |
| Soil (surface and subsurface) | Determine if contaminants are present. | Contaminants are present in site sources | Critical | NWTPH-Dx per method |
| Ground Water | Determine if contaminants are present or are migrating from site sources | Contaminants are present in site sources and may be migrating from site sources | Critical | NWTPH-Dx per method |

3-3 Sample Analysis Summary and QA/QC Analytical Summary and Fixed Laboratory Analytical Methods

| **Matrix/**  **Location a** | **Proposed Laboratory** | **Analytical Parameters/Methods/Description and Detection Limits** | **Precision and Accuracy b** | **Technical Holding Times c** | **Sample Preservation  (all 4oC + 2oC)** | **Sample Containers/MS/MSD Sample Containers** | **Number of Field Samples** | **Number of MS/MSD and Laboratory Duplicate Samplesd** | **Total Number of Sample Containers** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sediment/Soil | CLP or MEL | PCBs/SVOCs  EPA CLP SOW SOM02.4 (or current SOW) or  EPA SW-846 8082+8270/ GC-ECD+GC-MS/CRQL+Low SIM  (MA required for PCP- 0.879 ug/kg) | + 35%  50% - 150% | 14 days to extraction  40 days to analysis (no holding time limits for 8082 PCBs) | N/A | 1x8-ounce glass/ 1x8-ounce glass | 18 | NA | 18 |
|  |  | SVOCs/  EPA CLP SOW SOM02.4 (or current SOW) or  EPA SW-846 8270/ GC-MS/CRQL – Low SIM  (MA required for PCP- 0.879 ug/kg) | + 35%  50% - 150% | 14 days to extraction  40 days to analysis | N/A | 1x8-ounce glass/  1x8-ounce glass | 30 | NA | 30 |
|  |  | TAL Metals /  EPA CLP SOW ISM02.4 (or current SOW) or EPA SW-846 3050B+6010B/C/ ICP-AES+MS/CRQL  (MS needed for arsenic and cadmium) | + 35%  75% - 125% | 180 days | N/A | 1x8-ounce glass/ 1x8-ounce glass | 40 | 2 | 40 |
|  |  | VOCs/  EPA CLP SOW SOM02.4 (or current SOW) or  EPA SW-846 8260/ GC-MS/CRQL – Low  (Lower detection limits needed for 1,1-dichloroethane (2.61 ug/kg) and vinyl chloride (0.0885 ug/kg)) | + 35%  50% - 150% | At lab or frozen within 48 hours: 14 days from collection | Field freeze to < 7°C | 3xCore-N-One & 1x2 oz. glass/ 9xCore-N-One & 1x2 oz glass | 42 | NA | 168 |
|  | MEL or Subcontract Lab | Diesel-Range, Residual- and Motor Oil-Range TPHs/NWTPH-Dx / GC-FID/ 25 mg/kg and 100 mg/kg | + 35%  50% - 150% | 14 days to extraction 40 days to analysis | N/A | 1x8-ounce glass/ 1x8-ounce glass | 48 | NA | 48 |
| Water | CLP or MEL | PCBs/ EPA CLP SOW SOM02.4 (or current SOW) or EPA SW-846 8082/ GC-ECD/CRQL | + 20%  60% - 140% | 7 days to extraction 40 days to analysis (no holding time limits for 8082 PCBs) | N/A | 2x32 ounce glass amber/ 6x32 ounce glass amber | 9 | NA | 18 |
|  |  | SVOCs/ EPA CLP SOW SOM02.4 (or current SOW) or EPA SW-846 8270/ GC-MS/CRQL –Low + Trace SIM | + 20%  60% - 140% | 7 days to extraction 40 days to analysis | N/A | 2x32 ounce glass amber/  6x32 ounce glass amber | 23 | NA | 46 |
|  |  | TAL Metals /  EPA CLP SOW ISM02.4 (or current SOW) or EPA SW-846 3050B+6010B/C/ ICP-AES+MS/CRQL  (MS needed for arsenic and cadmium) | + 20%  75% - 125% | 180 days | pH < 2 with HNO3 | 1x1-liter polyethylene/ 2x1-liter polyethylene | 19 | 1 | 20 |
|  |  | VOCs/ EPA CLP SOW SOM02.4 (or current SOW) or  EPA SW-846 8260/ GC-MS/CRQL – Trace | + 20%  60% - 140% | 14 days | pH < 2 with HCl | 5x40-mL glass/ 15x40-mL glass | 20 | NA | 100 |
|  | MEL or Subcontract Lab | Diesel-Range, Residual- and Motor Oil-Range TPHs/NWTPH-Dx / GC-FID/ 250 g/L and 500 g/L | + 20%  60% - 140% | 14 days to extraction  40 days to analysis | pH < 2 with HCl | 2x32 ounce glass amber/ 4x32 ounce glass amber | 23 | NA | 46 |
| QA/QC Samples  (Include rinsates, trip blanks, and IDW) | CLP or MEL | PCBs/ EPA CLP SOW SOM02.4 (or current SOW) or EPA SW-846 8082/ GC-ECD/CRQL | + 20%  60% - 140% | 7 days to extraction 40 days to analysis (no holding time limits for 8082 PCBs) | N/A | 2x32 ounce glass amber/NAe | 3 | NA | 10 |
|  |  | SVOCs/ EPA CLP SOW SOM02.4 (or current SOW) or EPA SW-846 8270/ GC-MS/CRQL – Low + Trace SIM | + 20%  60% - 140% | 7 days to extraction 40 days to analysis | N/A | 2x32 ounce glass amber/NAe | 5 | NA | 10 |
|  |  | TAL Metals/  EPA CLP SOW ISM02.4 (or current SOW) or EPA SW-846 3050B+6010B/C/ ICP-AES+MS/CRQL  (MS needed for arsenic and cadmium) | + 20%  75% - 125% | 180 days | pH < 2 with HNO3 | 1x1-liter polyethylene/NAe | 4 | NA | 4 |
|  |  | VOCs/ EPA CLP SOW SOM02.4 (or current SOW) or  EPA SW-846 8260/ GC-MS/Trace | + 20%  60% - 140% | 14 days | pH < 2 with HCl | 5x40-mL glass/NAe | 8 | NA | 40 |
|  | MEL or Subcontract Laboratory | Diesel-Range, Residual- and Motor Oil-Range TPHs/NWTPH-Dx / GC-FID/ 250 g/L and 500 g/L | + 20%  60% - 140% | 7 days to extraction  40 days to analysis | N/A | 2x32 ounce glass amber/NAe | 5 | NA | 10 |

Note:

\* - RCRA-8 Metals include silver, arsenic, barium, cadmium, chromium, mercury, lead, and selenium. Some information for mercury is discussed on a separate row.

a = The number of samples presented is an estimate. The actual number of samples to be collected will be determined in the field.

b = Precision and accuracy are per method or SOW, as appropriate. In some cases, generic limits are listed in this table for comparison purposes.

c = Technical holding times have been established only for water matrices. Water technical holding times were applied to sediment, soil, and product samples where applicable; in some cases, recommended sediment/soil holding times are not listed.

d = MS/MSD samples are collected at a rate of 1 in 20. Laboratory duplicate samples are collected at a rate of 1 in 10.

e = No MS/MSD and laboratory duplicate samples are not being collected for water QA/QC samples as these are field rinsate and/or trip blank samples collected only for QA/QC purposes.

|  |  |
| --- | --- |
| Key: |  |
| ° C = | Degrees Celsius |
| μg/kg = | micrograms per kilogram |
| AES = | Atomic Emission Spectrometer |
| AA = | Atomic Absorption |
| ADEC = | Alaska Department of Environmental Conservation |
| CBCs =  CLP = | Chlorinated Biphenyl Congeners  Contract Laboratory Program |
| CRQL = | Contract Required Quantitation Limit |
| CVAA = | Cold Vapor Atomic Absorption |
| ECD = | Electron capture detection |
| EPA = | United States Environmental Protection Agency |
| FID = | Flame Ionization Detector |
| GC = | Gas Chromatograph |
| HCl = | Hydrochloric acid |
| HNO3 = | Nitric acid |
| HRGC =  HRMS =  ICP = | High resolution gas chromatography  High resolution mass spectrometry  Inductively coupled argon plasma |
| MEL = | Manchester Environmental Laboratory |
| mg/kg = | milligrams per kilogram |
| mL = | Milliliter |
| MS = | Mass spectrometric detection |
| MS/MSD = | Matrix spike/matrix spike duplicate |
| NA = | Not applicable |
| PCBs = | Polychlorinated biphenyls |
| PCDDs = | Polychlorinated dibenzo-p-dioxins |
| PCDFs = | Polychlorinated dibenzo-furans |
| RCRA =  SOW = | Resource Conservation and Recovery Act  Statement of Work |
| SVOCs = | Semivolatile Organic Compounds |
| TAL = | Target Analyte List |
| TCLP =  TPHs = | Toxicity Characteristic Leaching Procedure  Total Petroleum Hydrocarbons |
| VOCs = | Volatile Organic Compounds |

Table 3-4 Sample Coding

|  |  |  |  |
| --- | --- | --- | --- |
| **Digits** | **Description** | **Code** | **Example** |
| 1,2 | Source Code | FC | Fuel and Chemical Storage Building |
|  |  | ID | Investigation Derived Waste |
|  |  | MS | Maintenance Shop |
|  |  | NA | Former NaOH Tank |
|  |  | OC | Former Oil Tank and Chemical Storage Shed |
|  |  | PB | Planer/Grader Building |
|  |  | PW | Former Paint Waste Tank |
|  |  | RI | Rinsate |
|  |  | VM | Former Vehicle Maintenance Shop |
| 3,4 | Consecutive Number | 01 | First number of source code |
| 5,6 | Matrix Code | GW | Ground Water |
|  |  | SB | Subsurface Soil |
|  |  | SS | Surface Soil |
|  |  | WT | Water |
| 7,8 | Consecutive Number | 01 | Lowest depth of sample matrix |