APPENDIX B

Project-specific Waste Management Plan

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Introduction

Investigation-derived waste (IDW) generated during implementation of this Work Plan may include the following:

- IDW soil, consisting of drill cuttings and soil produced during well installation
- Aqueous IDW from drilling, monitoring well, and groundwater probe development, sampling, and equipment decontamination
- IDW nonaqueous-phase liquid (NAPL) from purging and sampling monitoring wells
- Other IDW consisting of personal protective equipment (PPE), spent sampling materials (for example, sample tubing), and general refuse (for example, paper towels, and plastic)

This appendix describes procedures for handling IDW, general waste management requirements, offsite shipment of waste and materials, and recordkeeping.

Soil Investigation-derived Waste

Petroleum, Oil, and Lubricant-Contaminated Sites

IDW soil from petroleum, oil, and lubricant (POL)-contaminated sites will be screened as it is generated. If the IDW soil has a headspace photoionization detector (PID) reading of less than 50 parts per million by volume (ppm) and is not stained or emitting odors, the IDW soil may be returned to the borehole from which it originated. If the headspace PID reading is greater than 50 ppm, the soil will be placed in 55-gallon steel drums and staged at a project-specific location designated for soil IDW accumulation. Only cuttings from one site will be placed in each drum; drill cuttings from different sites will not be composited. An "Analysis Pending" or "Non-Hazardous" Waste label with the following information will be affixed to each drum:

- Date of generation
- Boring identification number
- Drum contents
- Project contract number
- Name and telephone number of the designated or emergency contact

Drummed soil IDW will be evaluated for contamination using either the analytical results from the sampling location where the soil IDW was generated or obtaining a grab soil sample from the drum and analyzing it for volatile organic compounds (VOCs)

(U.S. Environmental Protection Agency [EPA] Method 8260B) and diesel-range organics (DRO) (Method AK102).

If petroleum-contaminated IDW soil exceeds Alaska Department of Environmental Conservation (ADEC) Method Two cleanup levels according to 18 Alaska Administrative Code (AAC) 75 (ADEC, October 9, 2008), the drummed soil IDW will be transported to a location designated by U.S. Air Force (USAF) and treated by landspreading or within a biopile. If contamination of the soil IDW does not exceed ADEC Method Two levels, the drummed soil IDW will be spread at a location designated by USAF.

Non-Petroleum, Oil, and Lubricant-contaminated Sites

Soil IDW from sites with contamination other than petroleum (for example, chlorinated solvents, pesticides, or polychlorinated biphenyls [PCB]) will be segregated from soil IDW from petroleum-contaminated sites. Soil that cannot be replaced or treated onsite, will be disposed of offsite. The soil will be placed in 55-gallon steel drums, labeled, and staged at a project-specific location designated for soil IDW accumulation. Drummed soil IDW will be evaluated for contamination either using analytical results from the sampling location where the soil IDW was generated or by obtaining a grab soil sample from the drum and analyzing it for Toxicity Characteristic Leaching Procedure (TCLP) in accordance with 40 Code of Federal Regulations (CFR) Part 261 requirements.

Consistent with the Offsite Rule (OSR), wastes generated from remediation activities at a Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) site may only be transferred to offsite facilities that are determined acceptable by EPA Regional Offsite Contact (40 CFR 300.400(b)). CH2M HILL will maintain a record of the facility's OSR approval prior to use.

Aqueous Investigation-derived Waste

Aqueous IDW produced from purging, sampling, and decontaminating activities will be containerized, filtered though a sediment filter and granular activated carbon (GAC) canister, and discharged to a sanitary sewer within the Former Galena Forward Operating Location (FOL). Permits will be obtained from the City of Galena for discharging the treated water to the sewer, as required. A sediment filter is required to remove particulates greater than 10 microns from the IDW and prevent clogging of the GAC filter. Aqueous IDW can be pumped (at 5 gallons per minute or less) or gravity-fed though the filter system.

For fuel hydrocarbons, contamination breakthrough in the GAC effluent (the point when measurable contaminants are first detected in the effluent) typically occurs when the weight of the contaminants in the influent is equal to approximately 10 percent of the weight of the activated carbon (for example, 3 pounds of hydrocarbons for 30 pounds of activated carbon). Assuming the influent concentration is less than the solubility of diesel fuel (about 5 milligrams per liter [mg/L]), the quantity of water that can be filtered with a GAC canister with 30 pounds of activated carbon is approximately 72,000 gallons (that is, 5 milligrams/liter [mg/L] x 2.205×10^{-6} pounds/mg x 3.785 L/gallon = 4.173×10^{-5} pounds/gallon; 3 pounds/4.173×10^{-5} pounds/gallon = 71,891 gallons). Other contaminants (such as low

molecular weight hydrocarbons and chlorinated solvents) might achieve breakthrough more quickly. The field staff should collect samples of water discharged from the GAC filtration system in a bucket or other container at least twice each time aqueous IDW is treated. As an additional means of ensuring that the GAC filtration system is operating properly, observations should be made and recorded with respect to appearance, odor, and presence or absence of sheen. The GAC filter should be disposed of at an approved facility permitted by the EPA or State of Alaska prior to breakthrough.

No sheen or free product should be filtered through the GAC canister because this would rapidly exhaust the treatment capacity. If sheen or free product is observed on the drums of aqueous IDW prior to treatment, sorbent pads will be used to remove the product so that only aqueous IDW with dissolved-phase hydrocarbons is passed through the filter. The sorbent pads would then be placed in a drum and disposed of as oily wastes at a waste facility permitted by EPA or the State of Alaska.

Nonaqueous-phase Liquid Investigation-derived Waste

Free product and oily wastes generated during purging and sampling of monitoring wells will be containerized in a U.S. Department of Transportation (DOT)-approved container and disposed of at a waste facility permitted by EPA or the State of Alaska. The "Offsite Shipment of Waste and Materials" section describes shipping and manifesting requirements related to these products.

Other Investigation-derived Waste

It is expected that PPE, disposable sampling equipment generated during field activities, and general refuse IDW will include the following items:

- Gloves (nitrile or otherwise)
- Chemical-resistant coveralls (Tyvek® or otherwise)
- Groundwater filters
- Plastic bailers
- Downhole tubing
- Temporary microwell construction materials
- Plastic buckets
- Paper towels
- Plastic sheeting

These materials will be generated in small quantities during field activities. It is assumed that used materials will be municipal solid waste, and will be accumulated and disposed of as such. Unused equipment or equipment that can be decontaminated will be reused to the extent practicable.

General Waste Management Requirements

IDW that is not returned or spread on the ground will be accumulated in containers in an area identified or approved by the USAF. IDW accumulation areas will contain appropriate emergency response equipment. The Health and Safety Plan identifies the specific emergency response procedures and equipment. Spill control equipment (for example, sorbent pads) will be available in the IDW accumulation areas, and where liquids are transferred from one vessel to another.

Containers will be inspected upon arrival at the site to confirm the equipment is not in disrepair and does not contain any contamination or contents. If container is in disrepair, is contaminated, or already contains a waste, it will be immediately rejected and documented.

The following guidelines relate to drums and small containers:

- Adequate aisle space (for example, 30 inches) will be provided for containers such as 55-gallon drums to allow the unobstructed movement of personnel and equipment. A row should be no more than two drums wide.
- Each drum will be provided with its own label, and labels will be visible.
- Drums will remain covered except when removing or adding waste to the drum. Covers will be properly secured at the end of each workday.
- Drums will be disposed of with the contents. If the contents are removed from the drums for offsite transportation and treatment or disposal, the drums will be decontaminated prior to re-use or before leaving the site.
- Drums containing liquids or hazardous waste will be provided with secondary containment and may not be located near a storm water inlet or conveyance.

IDW Accumulation Area Inspections

IDW accumulation areas will be inspected at least weekly for malfunctions, deterioration, discharges, and leaks that could result in a release. Any deficiencies observed or noted during inspection will be corrected immediately. Appropriate measures may include transfer of waste from a leaking container to a new container, replacement of liner or cover, or repair of containment berm.

Inspections will be recorded. Any deficiency and how a deficiency was corrected will be documented. Copies of the report will be maintained onsite and available for review.

Training

Field staff who will manage hazardous or potentially hazardous IDW, including the preparation of shipping documents (for example, manifests), will meet the hazardous waste

generator training requirements of 40 CFR 265.16 and DOT (49 CFR 171 – 179) through the following:

- OSHA 1910.120 HAZWOPER training
- On-the-job training including the following:
  - Site-specific Health and Safety Plan review, which requires each site worker and guest to review and sign the plan
  - Activity hazard analysis and daily safety meetings
  - Project-specific Work Plan review; for example, this project-specific waste management plan
- Online, internal training including the following:
  - Dangerous goods
  - Waste management

Offsite Shipment of Waste and Materials

Hazardous or nonhazardous wastes or recyclable materials generated during project activities will be handled in accordance with industry standards and state and federal regulations. Applicable regulations include, but are not limited to the following:

- Resource Conservation and Recovery Act (RCRA): 40 CFR Parts 260, 261, 262, 263, 268, and 279
- Toxic Substances Control Act (TSCA): 40 CFR Part 761
- Hazardous Materials Transportation Act: 49 CFR Part: 171-179
- Alaska Statues and Regulations: AS 46.03, Environmental Conservation
- 18 AAC 60, Solid Waste Management
- 18 AAC 62, Hazardous Waste
- Canadian Import and Export Hazardous Regulations

Shipping Requirements

Prior to offsite disposal of any waste, an approval package for each waste stream will be prepared. This package will include a waste profile naming the USAF as the generator of the waste, analytical summary table(s) applicable to the waste, land disposal restriction (LDR) notification for any hazardous wastes, a completed waste manifest (when possible), and any other applicable information necessary for USAF to complete its review of the disposal package and sign as the generator.

The signed profile will then be submitted to the designated offsite facility operator for acceptance and approval. Once the approval letter is received from the designated facility operator, transportation can be scheduled.

RCRA hazardous wastes must be transported using a uniform hazardous waste manifest and must be manifested separately from non-RCRA wastes. A nonhazardous waste manifest will be used for non-RCRA wastes. PCBs subject to TSCA will be shipped using a uniform hazardous waste manifest and will be manifested separately from all other items. When possible, manifests will be preprinted before mobilization to the field. USAF requires 72 hours to review and approve pre-printed manifests. When items are added or changed in the field, a copy of the manifest will be transmitted to USAF by fax, allowing reasonable time for their review and approval. At the discretion of USAF, some nonhazardous wastes can be shipped on a bill-of-lading only. Wastes (hazardous or nonhazardous) that cannot be recycled or otherwise used will be manifested to a treatment, storage, and disposal facility (TSDF) permitted by EPA or the State of Alaska. The TSDF will meet the requirements for TSDFs as identified in 40 CFR Parts 264–268.

Additionally, each shipment of waste will have a weight ticket. An LDR notification/certification is also required for hazardous wastes. This form also requires the generator's signature and submission to the designated facility.

Manifests

Hazardous and nonhazardous materials, substances, or wastes identified for handling and removal from the site will be packaged, labeled, marked, and manifested according to applicable state and federal regulations (40 CFR 263). USAF will sign the manifest after verifying its accuracy and completeness. CH2M HILL will submit generator copies of manifests to the USAF. The original generator copy of the hazardous waste manifest, signed by transporters and the TSDF, and certificates of disposal, destruction, and/or treatment will be provided to the USAF.

The manifest form will also include the following information:

- Transporter information including name, address, contact name and the telephone number, and EPA ID number
- Designated facility information including name, address, telephone number, and EPA ID number
- Site name including street and mailing address (if different)
- DOT proper shipping name (for example, Hazardous Waste Solid, n.o.s., 9, UN 3077, PG III [D008])
- Type and number of container
- Quantity of waste (volumetric estimate)
- Task order or job number

- Profile number
- 24-hour emergency phone number

CH2M HILL will be responsible for the following:

- Obtaining necessary profiles
- Preparing exception reports when required by 40 CFR 262.42 and 40 CFR 761.215
- Preparing Land Disposal Restriction Notification forms (required for hazardous waste)
- Confirming that the waste (both hazardous and nonhazardous) is ultimately disposed of at the designated facility

RCRA and non-RCRA wastes will be manifested separately. TSCA wastes (such as PCBs) will also be manifested separately. Manifests, shipping papers, and profiles will be submitted to USAF for a review a minimum of 3 full working days before shipping offsite. The contractor will provide ADEC a copy of the manifest within the time limit specified by 18 AAC 60 and 62.

The generator and the transporter must sign the manifest prior to the load of waste leaving the site. The original signed manifest will be returned to the address of the generator.

If the signed hazardous waste manifest from the designated facility is not received within 35 days, the generator must contact the transporter or the designated facility to determine the status of the waste. If the signed hazardous waste manifest has not been received within 45 days, the generator must issue an exception report to the State of Alaska, as required under 40 CFR 262.42.

Transportation

Each transportation vehicle and load of waste will be inspected and documented before it leaves the site. The quantities of waste leaving the site should be recorded on a transportation and disposal log. A contractor licensed for commercial transportation will transport non-hazardous wastes. When wastes are hazardous, the transporter will have an EPA identification number, and will comply with transportation requirements outlined in 49 CFR 171-179 (DOT) and 40 CFR 263.11 and 263.31 (Hazardous Waste Transportation).

The transporter will be responsible for weighing loads at a certified scale. For each load of material, weight measurements will be obtained for each full and empty container, dump truck, or tanker truck. Disposal quantities will be calculated as the difference between the weight of the full and empty container or dump truck. Weights will be recorded on the waste manifest.

The transporter must notify CH2M HILL immediately of any delays, problems, or violations of transport regulations that may occur during transport of materials. Additionally, the transporter will observe the following practices when hauling and transporting wastes offsite:

- Minimize impacts to general public traffic

- Repair road damage caused by construction and/or hauling traffic
- Cleanup waste spilled in transit
- Line and cover trucks and trailers used for hauling contaminated waste to prevent releases
- Decontaminate vehicles prior to re-use
- Seal tanker trucks

Personnel involved in offsite disposal activities will follow safety and spill response procedures outlined in the Health and Safety Plan.

No materials from other projects will be combined with materials from this site.

Recordkeeping

The following records and documents will be maintained:

- Transportation and offsite disposal documentation, including the following:
  - Copies of the profiles and associated characterization data
  - The transporter signed manifest as well as the fully executed manifests, copies of the following: LDR notifications and certifications, bills of lading, and weight tickets
  - Designated offsite facility waste receipts and certificates of disposal or destruction
- Training records
- Inspection records