FINAL

BUNKER HILL MINING AND METALLURGICAL COMPLEX WASTE ACCEPTANCE CRITERIA

Approved by

Idaho Department of Environmental Quality

and

U.S. Environmental Protection Agency

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SECTION 1.0 PURPOSE

The primary purpose of this document is to orient repository users to general waste acceptance criteria that Repository Managers will be using for operations of various repositories located in the Bunker Hill Mining and Metallurgical Complex Superfund Site, hereinafter referred to as the Bunker Hill Superfund Site (BHSS). Although the repositories are used by small quantity (< 50 cubic yards) domestic generators of wastes, the repositories are dominated by large quantity (>50 cubic yards) generators or contractors involved in large scale remedial actions. It is a prerequisite of these Waste Acceptance Criteria that all generators of waste communicate with the Repository Manager so that wastes may be properly handled and disposed at the repository. This communication with the Repository Manager is particularly important to the large generators or anyone who may have reason to believe their waste may not meet the following Waste Acceptance Criteria

A secondary purpose for this document and the revisions that should be made to Basin and County wide waste management strategies is to encourage decontamination of "superficially" contaminated solid wastes and rock, and reuse of either of those materials at the point of origin or within the local market. Items such as creosote treated guard rail posts that might have residual mining contaminated soils can be knocked or washed off and reused in non-residential locations.

The Repository Manager, henceforth, refers to the Project Manager responsible for overseeing development, construction, and operations and maintenance of the repositories. The Repository Manager has the discretionary authority to accept or reject wastes at the repository(s) based on these Waste Acceptance Criteria, the applicable Repository Operations Plans, Bunker Hill cleanup requirements and Remedial Action Objectives described in the applicable ROD(s), directives from EPA and IDEQ and his ability to reuse non-spec materials.

The Repository Operator, henceforth, is a contractor responsible for the mechanical processes involved in moving and placing materials, developing, constructing, operating, maintaining, and closing repository facilities. The Repository Operator will make all routine decisions for day to day operations or construction of the facilities as designed and approved by the Repository Manager(s) and in accordance with other supplementary documents such as the applicable Repository Operations Plan(s).

Establishing and maintaining up-to-date waste acceptance criteria is important for the progression of cleanup activities in the BHSS, the proper functioning of the Institutional Controls Program (ICP), the successful operation and maintenance of the repositories, and for maintaining the health and safety of residents of the Bunker Hill Superfund Site.

SECTION 2.0 APPLICABILITY

The BHSS is located in the Coeur d'Alene River Basin and includes three operable units (OUs) as follows:

- OU1: This OU includes the populated areas of the 21-square-mile Bunker Hill Box. It includes residential and commercial properties, rights-of-way, and public use areas in the towns of Kellogg, Wardner, Smelterville, Pinehurst, and several smaller unincorporated communities (EPA 2002).
- OU2: This OU includes the non-populated areas of the Bunker Hill Box. It includes the former industrial complex and mine operations area, river floodplain, hillsides, various creeks and gulches, surface water and groundwater, the Central Impoundment Area, and the Bunker Hill Mine and associated acid mine drainage (EPA 2002).
- OU3: This operable unit includes the broader Coeur d'Alene River Basin outside the Bunker Hill Box (EPA 2002). This operable unit is often referred to as "the Basin."

The Selected Remedies identified in the OU1, OU2, and OU3 Records of Decision (ROD) (EPA 1991, 1992, and 2002) require the disposal of contaminated materials in permanent soil repositories. The OU3 ROD states the following in regard to waste disposal in repositories:

> Waste consolidation areas designed and constructed in the Coeur d'Alene Basin pursuant to this ROD will only be able to receive material generated by the cleanup activity associated with the Selected Remedy in this ROD, including material generated through the Basin Institutional Controls Program (ICP) and related Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) removals in the Basin. This material will include soils, house dust, debris, alluvial and fluvial soils, and sediment contaminated by mining extraction and beneficiation waste released from historic mining facilities in the Coeur d'Alene Basin (EPA 2002).

As described in the OU3 ROD, waste materials include a variety of media contaminated by mining extraction and beneficiation waste released from historic mining facilities in the Coeur d'Alene Basin. In addition, waste materials include items (e.g., wood, concrete, metal, etc.) in contact with the contaminated media. The waste acceptance criteria described within this document apply to all waste materials requiring disposal in the Page, Big Creek, and East Mission Flats repositories located in the BHSS.

The activities and programs that will provide contaminated waste materials for disposal in the BHSS repositories include the following:

- Cleanup activities associated with the Selected Remedies identified in the OU1, OU2, and OU3 RODs (EPA 1991, 1992 and 2002),
- the ICP, and
- Other CERCLA removals conducted in OU1, OU2, and OU3.

The U.S. Environmental Protection Agency (EPA) and Idaho Department of Environmental Quality (DEQ) regulate cleanup activities and other CERCLA removals in the BHSS OUs. The Panhandle Health District (PHD) administers and enforces the ICP and the contaminant management rules listed in Idaho Administrative Procedures Act (IDAPA) 41.01.01.500 and IDAPA 41.01.01.511. The BHSS waste acceptance criteria are enforced through these regulatory/oversight entities.

SECTION 3.0 ACCEPTABLE WASTE MATERIALS

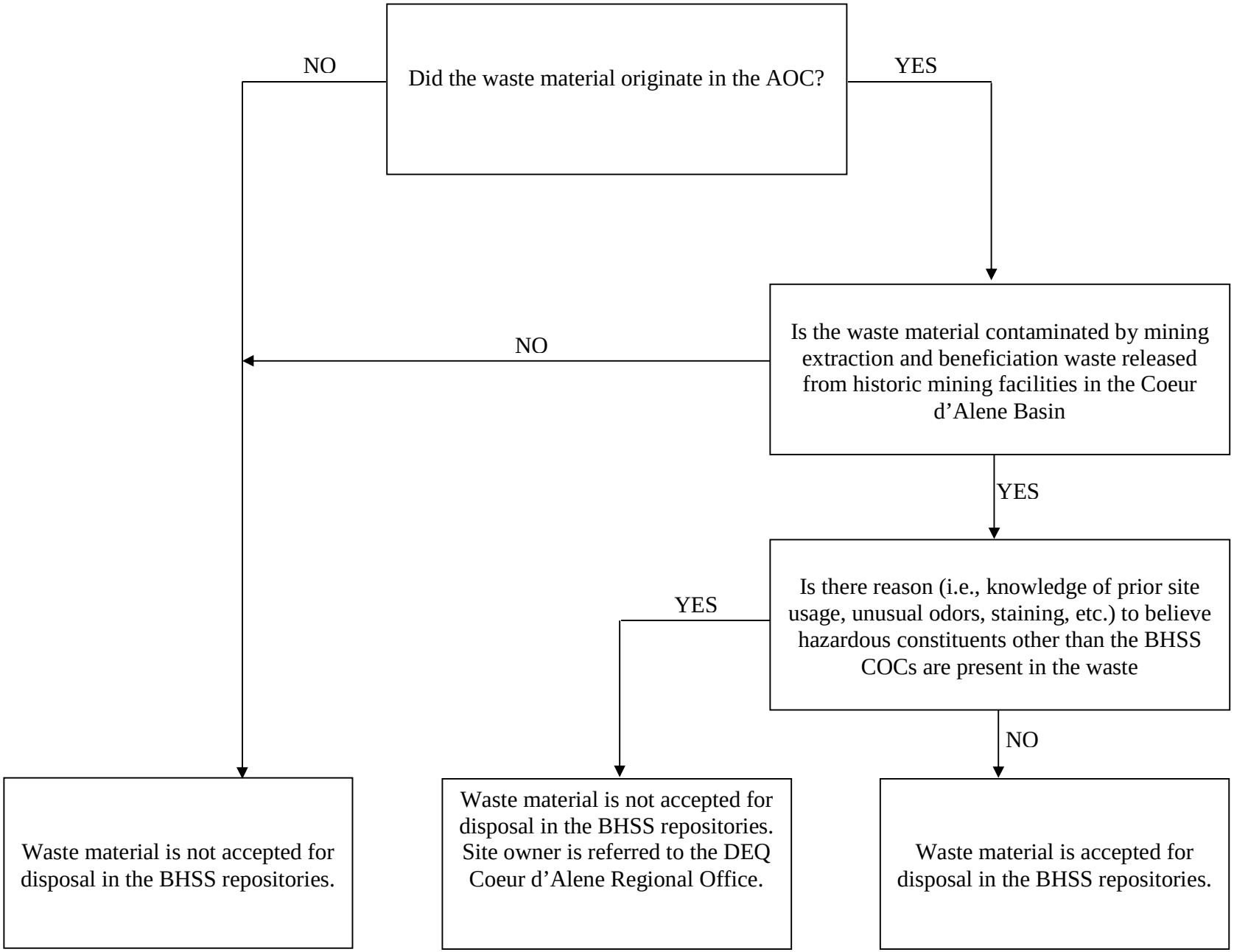
Acceptance of materials for disposal in the BHSS repositories is based upon a three-step process. The overlying concept of this three-step process can be stated as follows: Waste materials, originating in the area of contamination (AOC), contaminated by mining extraction and beneficiation waste released from historic mining facilities in the Coeur d'Alene Basin and Bunker Hill Box will be accepted for disposal in repositories, unless there is reason to believe hazardous constituents other than the BHSS contaminants of concern (COC) are present in the waste. If other contaminants are present, such as petrochemicals, in the mine or mill contaminated wastes, it will be at the sole discretion of the Repository Manager to determine whether to accept or reject the wastes and what other provisions must be accommodated by the generator as conditions of waste acceptance. A flow chart is presented in Figure 1, which identifies the steps in the waste acceptance process. In addition, the following sections provide further information on each step of the process.

3.1 Originate in the Area of Contamination (AOC)

The first step in the waste acceptance process is to determine whether the waste materials originated in the AOC. The OU1, OU2, and OU3 RODs provide varying but similar definitions for the AOC. The OU1 ROD states the following in regards to the AOC:

> As the remedial investigation sampling and analysis has shown, residential properties and all other areas within the BHSS are contaminated to various degrees with lead and other heavy metals. Contamination is contiguous throughout the site and the site is considered a single AOC. As described in the preamble to the National Oil and Hazardous Substances Contingency Plan (NCP), movement of wastes and soil within an AOC at a superfund site does not constitute disposal or "placement" and therefore does not trigger Resource Conservation and Recovery Act (RCRA), subtitle C, disposal requirements. For this action, all soil consolidation and movement will be within a single AOC; thus, the RCRA requirements are not applicable (EPA 1991).

Figure 1. Waste Acceptance Process



A similar definition for the AOC is provided in the OU3 ROD, as follows:

> Where there are two or more noncontiguous contaminated areas that are reasonably related on the basis of geography, or on the basis of the threat, or potential threat, to the public health or welfare or the environment, CERCLA section 104(d)(4) and the preamble to the NCP (40 CFR 8690) allows USEPA to treat these related areas as one AOC for response purposes and, therefore, allows the lead agency to manage waste transferred between such noncontiguous areas without having to obtain a permit. Within the Coeur d'Alene Basin, the repositories and material generated by the cleanup activity associated with the Selected Remedy in this ROD will be related on both the basis of geography and on the basis of the threat to public health or welfare and the environment. In addition, these wastes will be compatible with the selected disposal approach in the repositories. Thus, consolidation of these wastes in a repository will not require permits even if the waste site and repository location are determined to be noncontiguous (EPA 2002).

The boundaries of the AOC have not been fully delineated and are dependent on where contamination from historic mining facilities in the Coeur d'Alene Basin lies. As stated previously, wastes requiring disposal in the BHSS repositories are regulated by EPA, DEQ, and PHD; therefore, the determination as to whether wastes are located within the AOC will be made by these oversight agencies.

3.2 Contaminated with Mining Extraction and Beneficiation Wastes

The second step in the waste acceptance process is to determine whether the waste materials are contaminated by mining extraction and beneficiation waste released from historic mining facilities in the Coeur d'Alene Basin. As stated in the OU1 ROD, residential properties and all other areas within the BHSS are contaminated to various degrees with lead and other heavy metals (EPA 1991). In addition, the OU2 ROD states "contamination of Site media is extensive throughout the Non-populated Areas" (EPA 1992). A general assumption could be stated as follows: If a waste material is generated within the AOC, it is contaminated by mining extraction and beneficiation waste. The applicability of this assumption will be determined by the oversight agencies (i.e., EPA, DEQ, and PHD). The determination will be made based on multiple lines of evidence including visual observations, analytical data (if available), property historical information and/or knowledge of the property from which the waste originated. **If the mining extraction or beneficiation contaminated wastes do not meet the criteria stated in this document, they will normally not be accepted at the Repository. In the rare instance where materials that do not meet the WACs are accepted for disposal at the repository express written consent of the Repository Manager is required before they are delivered to the repository**. In general, acceptable waste materials and categories for waste segregation include the following:

1. Soils or soil-like material (typically from remediation of yards or rights-of-way).
2. Mine tailings material or soil contaminated by mine tailings material.

3. Natural rock ≤ 24 inches, in any one dimension, that is in contact with soils that contain COCs. These materials must be contaminated; non-contaminated materials must be taken to an alternate appropriate landfill.
4. Construction and demolition debris (i.e., concrete, brick, cinder block, asphalt, insulation and carpeting materials) that contains COCs.
    a. Concrete, brick or cinder block materials ≤ 12 inches thick when laid flat on the ground and ≤ 2 feet in any other dimension. Asphalt ≤ 12 inches thick when laid flat on the ground and ≤ 2 feet in any other dimension.
    b. Carpeting materials that are in contact with contaminated materials.
5. Sod and root balls.
6. Treated wood, including pressure treated or painted wooden fence posts, telephone poles, mine timbers, railroad ties, etc.

3.3 No Reason to Believe Other Hazardous Constituents are Present

The third step in the waste acceptance process is to determine whether there is reason to believe hazardous constituents other than the COCs identified in the OU1, OU2, and OU3 RODs are present in the waste materials requiring disposal. These other hazardous constituents are regulated by other state or federal regulations (i.e., RCRA or similar state laws). If the project oversight agency has reason to believe other hazardous substances are present, the property owner will be referred to the DEQ Coeur d'Alene Regional Office (DEQ CRO). Reasons to believe other hazardous substances may be present include knowledge of prior site usage, unusual odors, staining, stressed vegetation, or other indications of hazardous substance releases. Sampling for the other hazardous substances may be required under the applicable state or federal regulations; however, the determination as to whether sampling is required and the entity responsible for the associated costs will be under the direction of the DEQ CRO. Mining and beneficiation contaminated wastes containing other hazardous substances will not be accepted for disposal at the BHSS repositories unless expressed approval by the Repository Manager prior to delivery to the repository. Any unauthorized disposal of wastes will be properly re-handled and disposed by the Repository Manager who then will seek cost recovery from the generator, his agent or his contractor(s) for those actions.

3.3.1 Petroleum Contaminated Soils (PCS)

The Page Repository is the only repository where PCS will be accepted, treated, and disposed. PCS derived from cleanups that occur within the AOC, may be permitted by the Page Repository Manager for disposal in the Page Repository after appropriate treatment by the generator. These wastes will only be accepted by the Page Repository Manager for disposal at the Page Repository **after** meeting specific requirements and documentation of compliance with rules administered by the DEQ CRO. If the PCS materials have been treated at a designated PCS treatment facility, or the waste generator or contractor wants to treat and dispose of the PCS at the Page repository, the generator or contractor will be required to enter into an enforceable voluntary cleanup order with DEQ CRO and will be required to submit the waste acceptance approval form to the Page Repository Manager for approval or rejection. The decision as to

whether the treated soils will be accepted for disposal in the Page Repository or rejected will be made at the sole discretion of the Page Repository Manager.

The generator, consultant or contractor of petroleum contaminated ICP wastes must keep these wastes segregated from all others staged at Page until they have been appropriately treated. The generator, consultant or contractor will provide for financial commitment to the temporary storage, treatment, testing, disposal, and any other special handling or needs to comply with DEQ rules. This financial commitment must be contained in the voluntary cleanup agreement with DEQ prior to PHD issuing a permit to use the Page Repository facilities or submission of the waste acceptance approval form to the Repository Manager. The Repository Manager will provide the generator, consultant or contractor a specific area that must be properly prepared for temporary storage, treatment, and testing of the petroleum contaminated ICP wastes prior to disposal.

3.4 Waste Acceptance Summary

If it is determined 1) the waste materials originated within the AOC; 2) the waste materials are contaminated by mining extraction and beneficiation wastes released from historic mining facilities in the Coeur d'Alene Basin; and 3) there is no reason to believe the waste materials contain hazardous substances other than the COCs listed in the OU1, OU2, and OU3 RODs, the waste materials will be accepted for disposal in the BHSS repositories, with some restrictions on principal threat materials and liquid/liquid containing wastes as described in the following section.

SECTION 4.0 PRINCIPAL THREAT MATERIALS AND LIQUID/LIQUID CONTAINING WASTES

4.1 Principal Threat Materials

The OU3 ROD states the following in regard to principal threat materials:

> Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained and/or would present a significant risk to human health or the environment should exposure occur... If additional concentrates or other materials that meet the definition of principal threat waste are encountered during remedy implementation, these materials would be managed in a manner that is protective of human health and the environment and consistent with the NCP. The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP§300.430(a)(1)(iii)(A)). Where EPA determines that it is not practicable to use treatment to address principal threat waste, such waste may be transported off-site, consistent with the Off-Site Disposal Rule, 40 CFR 300.440, or managed safely on-site, consistent with all ARARs identified in Section 13.2 of this ROD.
>
> Principal threat wastes (such as metal concentrates) and non-Beville-exempt hazardous waste will be disposed of at an off-site facility or may be disposed of on-site with

additional treatment and/or additional engineering measures. Treatment may consist of stabilization of waste materials. Engineering measures may consist of construction of an enhanced cap to prevent leaching or a lined principal threat materials cell to contain highly concentrated and/or highly mobile material (EPA 2002).

Waste materials determined by the project oversight agency to be principal threat materials (PTMs) will not be accepted for disposal at BHSS repositories unless appropriate engineering measures are taken at the disposal repository to contain the materials. The determination as to whether PTMs will be accepted for disposal will be made on a case-by-case basis. Materials with known COC concentrations exceeding the threshold criteria in Table 1 will be considered PTM for the purposes of disposal.

Table 1. Principal Threat Material (PTM) Threshold Criteria (EPA 1992)

Metal[1]	Parts Per Million (ppm)	Percent
Antimony (Sb)	127,000	12.7
Arsenic (As)	15,000	1.5
Cadmium (Cd)	71,000	7.1
Lead (Pb)	84,600	8.5
Mercury (Hg)	33,000	3.3

Note:

1. A waste material exceeds the threshold criteria if any of the metals listed are present in the material at or above the associated concentrations listed in Table 1.

4.2 Liquid and Liquid Containing Wastes

Repositories are designed to handle solid mine extraction or beneficiation contaminated wastes. Specifically, wastes (listed above) to be disposed of in repositories include soils, house dust, debris, alluvial and fluvial soils, and sediment contaminated by mining extraction and beneficiation waste released from historic mining facilities in the Coeur d'Alene Basin. Typically acceptance of liquid/liquid containing wastes is not allowed at the BHSS repositories, except petroleum contaminated soils (at Page Repository only), street sweepings, and storm water generated wastes from municipal storm systems. Small quantities (<50 cubic yards) of Petroleum Contaminated ICP Soils may be temporarily stockpiled and treated at Page, and if they can be treated to meet disposal requirements, they will be incorporated in the repository fill. Drill cuttings and other similar supersaturated materials will be accommodated at the Central Treatment Plant on a case-by-case basis. However, special circumstances in which these items are contaminated by COCs related to historic mining or beneficiation disposal practices, such that they would require disposal under the programs and activities described in Section 2, may be permitted for disposal in the repositories. The waste generator or contractor will be required to contact the Repository Manager at least 48 hours prior to delivery of the waste. The Repository Manager may manage the waste by disposing in the stormwater retention facilities, using the waste for dust suppression, or applying the waste during dry weather conditions.

The decision as to whether the liquid or liquid-containing waste materials will be accepted for disposal in the designated repository will be made by the Repository Manager based on characteristics of the liquid and solid components of the wastes. Some liquid containing wastes may first require decanting or treatment by the generator, his consultant or contractor responsible for the waste prior to delivery to the repository. After drying or treatment to remove the liquids, the waste materials, containing COCs listed in the OU1, OU2, and OU3 RODs, will be accepted for disposal in the BHSS repositories. This requirement is consistent with the *Waste Acceptance, Treatment, and Disposal Requirements for Petroleum contaminated ICP Soils* (DEQ 2009) established at the Page Repository.

SECTION 5.0 REPOSITORY INFORMATION

This section presents general information related to the BHSS repository program including key program contacts, repository site names and locations, and repository access information. EPA and DEQ oversee the repository program within the BHSS. Key repository management contacts for EPA and DEQ are as follows:

Coeur d' Alene Trust Contacts
Dan Meyer – Repository Manager
Coeur d' Alene Trust
1176 Big Creek
Kellogg, ID 83837
208-783-0222

DEQ Contacts:
Rob Hanson - Mine Waste Program Manager
DEQ State Office
1410 N. Hilton Drive
Boise, ID 83706
Phone: (208) 373-0290

Bruce Schuld – Program Manager
Kellogg Superfund Project Office
1005 W. McKinley
Kellogg, ID 83837
Phone: (208) 783-5781
Cell: 208-841-8179

EPA Contacts:
Anne McCauley
EPA Region X
1200 Sixth Ave Ste 900
Seattle WA 98101
206-553-4689

Craig Cameron EPA Project Manager
Hanford Office
309 Bradley Blvd Ste 115
Coeur d'Alene, ID 99352
Phone: (509) 376-8665

There are three repositories currently operating in the Coeur d'Alene Basin. They are the Big Creek Repository, East Mission Flats Repository, and the Page Repository, which are discussed in the following sections.

5.1 Big Creek Repository

5.1.1 Site Location

The Big Creek Repository (BCR) is located approximately four miles east of Kellogg, Idaho off of Interstate 90 (I-90), Exit 54. Access to the repository site is from Big Creek Road, which is located adjacent to the eastern side of the repository. There are two entrances to the BCR which include: 1) the main entrance for use by repository personnel, Basin Property Remediation Program (BPRP) contractors and other approved disposal contractors, and 2) the ICP entrance for use by ICP disposers permitted through PHD. Access to the repository through the ICP entrance requires the use of a key card issued through PHD. For further information regarding access to the BCR through the ICP refer to the PHD website http://www.phd1.idaho.gov/ or contact PHD:

Panhandle Health District
114 West Riverside Avenue
Kellogg, ID 83837
Phone: (208) 783-0707

5.1.2 Repository Manager

The BCR is owned by DEQ and operated by the Coeur d' Alene Trust in consultation with EPA and DEQ North Wind Construction Services LLC provides oversight of the daily operations at the BCR. DEQ, North Wind, and the Coeur d' Alene Trust managers for the BCR are listed below along with their titles and contact information:

Bruce Schuld
Idaho Department of Environmental Quality
Kellogg Superfund Program Manager
1005 W. McKinley
Kellogg, ID 83837
Phone: (208) 783-5781

Mark Feldman – Repository Operator
North Wind Construction Services, LLC
1176 Big Creek Road
Kellogg, Idaho 83837
Phone: (208) 783-1069

Dan Meyer – Repository Manager
Coeur d' Alene Trust
1176 Big Creek
Kellogg, ID 83837
208-783-0222

Craig Cameron EPA Project Manager
Hanford Office
309 Bradley Blvd Ste 115
Coeur d'Alene, ID 99352
Phone: (509) 376-8665

5.2 East Mission Flats Repository

5.2.1 Site Location

The East Mission Flats (EMF) Repository is located approximately two miles west of Cataldo, Idaho off of I-90, Exit 39. The repository site is currently accessed from Canyon Road, which is located adjacent to the northern side of the repository. A second point of access will be developed from Dredge Road, which is located adjacent to the western side of the repository. The entrance to EMF from Canyon Road is designated as the ICP entrance for use by ICP disposers permitted through PHD. The entrance to EMF from Dredge Road will be the main entrance for use by repository personnel, BPRP contractors, and other approved disposal contractors. Access to the repository through the ICP entrance requires the use of a key card issued through PHD. For further information regarding access to the EMF Repository using key cards issued by PHD, refer to the PHD website http://www.phd1.idaho.gov/ or contact PHD:

Panhandle Health District
114 West Riverside Avenue
Kellogg, ID 83837
Phone:(208) 783-0707

5.2.2 Repository Manager

The EMF Repository is owned by DEQ and Operated by the Coeur d' Alene Trust in consultation with EPA and DEQ. North Wind Construction Services LLC provides oversight of the daily operations at the EMF Repository. DEQ, North Wind, and the Coeur d' Alene Trust managers for the EMF Repository are listed below along with their titles and contact information:

Bruce Schuld – Kellogg Program Manager
Idaho Department of Environmental Quality
1005 W. McKinley
Kellogg, ID 83837
Phone: (208) 783-5781

Mark Feldman – Repository Operator
North Wind Construction Services, LLC
1176 Big Creek Road
Kellogg, Idaho 83837
Phone: (208) 783-1069

Dan Meyer – Repository Manager
Coeur d' Alene Trust
1176 Big Creek
Kellogg, ID 83837
208-783-0222

Craig Cameron EPA Project Manager
Hanford Office
309 Bradley Blvd Ste 115
Coeur d'Alene, ID 99352
Phone: (509) 376-8665

5.3 Page Repository

5.3.1 Site Location

The Page Repository is located approximately one-half mile west of Smelterville, Idaho. The repository site is currently accessed from Old Hwy 10 (aka McKinley Road), which is located adjacent to the south side of the repository. Access to the repository through the ICP entrance requires the use of a key card issued through PHD. For further information regarding access to the Page Repository using key cards issued by the PHD, refer to the PHD website http://www.phd1.idaho.gov/ or contact PHD:

Panhandle Health District
114 West Riverside Avenue
Kellogg, ID 83837
Phone: (208) 783-0707

5.3.2 Repository Manager

The Page Repository is owned by the State of Idaho and the South Fork of the Coeur d' Alene River Sewer District. It is operated by DEQ in consultation with EPA. DEQ Project Manager for the Page Repository is:

Bruce Schuld – State Program Manager
1005 W. McKinley
Kellogg, ID 83837
Phone: (208) 783-5781

Kevin Yrjana – Repository Manager
North Wind Construction Services, LLC
1176 Big Creek Road
Kellogg, Idaho 83837
Phone: (208) 783-1069

Anne McCauley
EPA Region X
1200 Sixth Ave Ste 900
Seattle WA 98101
206-553-4689

SECTION 6.0 REFERENCES

DEQ (Idaho Department of Environmental Quality) 2009. Waste Acceptance, Treatment, and Disposal Requirements for Petroleum contaminated ICP Soils. May.

EPA (U.S. Environmental Protection Agency) 1991. EPA Superfund Record of Decision: Bunker Hill Mining & Metallurgical Complex; EPA ID: IDD048340921; OU 01; Smelterville, ID; 08/30/1991. EPA/ROD/R10-91/028. August.

EPA (U.S. Environmental Protection Agency) 1992. EPA Superfund Record of Decision: Bunker Hill Mining & Metallurgical Complex; EPA ID: IDD048340921; OU 02; Smelterville, ID; 09/22/1992. EPA/ROD/R10-92/041. September.

EPA (U.S. Environmental Protection Agency) 2002. EPA Superfund Record of Decision: Bunker Hill Mining & Metallurgical Complex; EPA ID: IDD048340921; OU 03; Smelterville, ID; 09/12/2002. EPA/ROD/R10-02/032. September.

IDAPA (Idaho Administrative Procedures Act) 41.01.01.500 Rules of Idaho Public Health District #1, Contaminant Management in the Bunker Hill Superfund Site, Shoshone, County, Idaho.

IDAPA (Idaho Administrative Procedures Act) 41.01.01.511 Rules of Idaho Public Health District #1, Contaminant Management Rules in the Bunker Hill Superfund Site Operable Unit #3 Institutional Controls Administrative Area, Shoshone and Kootenai Counties, Idaho.