

OTTER CREEK MINE

EXHIBIT 308D: WASTE HANDLING AND DISPOSAL

1.0 Introduction

Storage and disposal of mine generated debris will meet the requirements in ARM 17.24.507. Waste may be handled in any of three different ways depending on the nature of the waste material:

- Disposal on-site;
- Recycling or reclaiming; and
- Disposal off-site.

The most desirable alternative is recycling or reclaiming; however, this is not always feasible. It will be accomplished by contracting with an independent firm for the proper transport and recycling/reclaiming of the waste material.

Off-site disposal is desirable for certain types of materials (i.e. fluids and lubricants) and is required for any waste classified as hazardous that may be generated at the mine. Off-site disposal is typically accomplished via an independent firm for the proper transport and disposal of the waste.

2.0 On-Site Waste Disposal

A disposal site will be established and maintained on site for disposal of solid waste generated as a result of mine construction and operation. Please refer to Exhibit 308C – Mine Facilities, for information regarding the location, operation and reclamation of the site. Solid waste will be placed in the disposal site and will be covered as soon as practicable. A minimum of eight feet of overburden will be placed over the disposal site for final reclamation. Disposal of solid wastes may occur at any time during mine operating hours. Disposal will not occur at times when conditions preclude safe and proper operation. Access to the disposal site is provided by mine haul and access roads. These roads are designed, constructed, and maintained for all-weather use by mine equipment. Therefore, inclement weather does not normally hinder disposal.

Surface water is not allowed to flow into or from solid waste disposal sites. Although precipitation at the disposal location cannot be controlled, waste will not intentionally be placed in standing water.

Waste disposal sites are constructed on lands owned and operated by Otter Creek Coal, LLC (OCC) as part of the active mining area. Disposal sites are clearly marked with signs identifying the site as a solid waste dump site. Solid waste is not placed within eight feet of the final graded backfill surface, within eight feet of any coal outcrop and or coal storage area, or at surface water impoundment sites.

3.0 Waste Types

This subsection describes the types of wastes that may be generated at Otter Creek Mine. General characteristics are discussed for each material type. Special handling procedures are also addressed when applicable.

3.1 Office and Shop Wastes

Office and shop wastes are wastes that may originate in the administration building, shops, and preparation plant at the mine. The wastes are solids such as paper, rags, filters, wood, cardboard, metals, plastics, and other synthetic materials. Minor quantities of food wastes are also included.

Office and shop wastes are placed in dumpsters or designated barrels in and around the plant site. These receptacles are emptied regularly and the wastes are hauled to the solid waste dump.

Fluorescent and mercury vapor light bulbs are collected and recycled.

3.2 Equipment and Supply Wastes

Equipment wastes are defined as large and small pieces of machinery, parts and accessories, engines, and miscellaneous components. Large pieces of waste equipment are recycled whenever possible. Used lead-acid batteries are stored separately on a concrete pad. They are periodically removed from the site and regenerated or recycled by an independent contractor.

Supply wastes are items such as belts, tires, pipes, cable, wire, glass, concrete, non-asbestos insulation, plasterboard, fencing, culverts and replacement parts. With the exception of lead-acid batteries, equipment and supply wastes are hauled directly to the solid waste dump, or temporarily stored in dumpsters. Dumpsters are regularly emptied in the solid waste dump.

Waste cables and wire ropes from draglines and shovels containing minimal grease residue are generally recycled, but may be disposed of in the backfill. Cables and wire ropes will not be placed within eight feet of the final graded backfill surface.

As with other types of waste generated at the mine, the preferred disposition of Off Road Vehicle Tires (ORVT) is to reuse or recycle the tires, to take advantage of the resource. When ORVT can no longer be used or cannot be recycled, the tires may be disposed of in the following manner:

- ORVT are placed in the backfilled spoil in a single layer, not contacting unmined coal. Whole tires are stacked in a single layer, while residual sidewalls and treads from two-piece tires may be stacked or layered no more than six high.
- ORVT will be covered in a timely manner, with no less than 50 feet of backfilled overburden.

3.3 Fuels, Fluids, and Lubricants

Representatives of this waste type are diesel fuels and gasoline, engine and hydraulic fluids, motor and power train oils and lubricants, greases, antifreeze, and various fuel additives. Most of these materials are liquids or semi-liquids. Fuels, fuel additives, greases, and lubricants are largely consumed by use. Fuel, fuel additive, grease and lubricant wastes are thus seldom generated. However, if encountered, these waste materials will be properly stored in a designated location and hauled off-site by independent contractors for proper disposal or recycling.

Used oils, lubricants, hydraulic and engine fluids will be stored in steel tanks and do not meet hazardous waste criteria. Whenever possible, used oils will be burned on-site for energy recovery in space heaters in the maintenance shops. In the event of burner failure or excess accumulation, the material will be hauled off-site for recycling by an independent contractor.

Any hazardous waste materials will be properly identified, manifested, and disposed of off-site.

3.4 Waste Sorbents

Granulated sorbent material is used in the maintenance shops to clean up minor oil, grease, fuel, antifreeze, and non-chlorinated solvent spills from the shop floor. Operational applications which require sorbents for clean-up will not involve materials which would meet the definition of a listed hazardous waste as defined in 40 CFR Part 261, Subpart D. Therefore, any sorbent mixture would not be considered a RCRA Hazardous Waste as defined in 40 CFR Part 261 Section 261.3(a)(2)(iv) (mixture rule). Any waste mixture resulting from the cleanup of hazardous wastes which are hazardous solely because it exhibits the characteristic of a hazardous waste (40 CFR Part 261 Subpart C) and which no longer exhibits the characteristic identified in Subpart C will be considered a solid waste (Section 261.3(a)(2)(i)).

3.5 Chemicals

Chemicals to be utilized at Otter Creek Mine will include paints and paint-related materials, starting fluids, and commercial cleaning fluids. Limited amounts of solvent purchased directly are also included in this category. Halogenated solvents will only be used for very specialized electrical cleaning purposes. This application is performed using aerosol cans and no recoverable waste material is produced. If, however, disposal should become necessary, it will be accomplished in accordance with EPA regulations for hazardous wastes.

3.6 Impacted Earthen Materials

Earthen materials that become impacted by a petroleum product are treated prior to placement in the backfill or hauled offsite for proper disposal. Prior to on-site treatment, the contaminated earthen material is evaluated and may be sampled and analyzed for hazardous constituents defined under RCRA (40 CFR Part 261). If impacted material is classified as hazardous, it will not be treated but will be disposed of in accordance with all applicable regulations. If it is not classified as hazardous, treatment is conducted on an inactive portion of the mine that meets the criteria outlined in the Montana Department of Environmental Quality (MDEQ) Solid Waste Management Guidelines for Licensing Landfarms for the Remediation of Hydrocarbon Impacted

Soils. Prior to treatment a Landfarm License commensurate with the volume of impacted soil to be treated will be obtained through the MDEQ Solid Waste Management Section.

The area will be tilled as deemed necessary. At such time as the material is degraded to meet Montana Tier 1 Risk Based Screening Levels for subsurface or surface soils, it will be placed in the backfill or left in place and prepared for final reclamation. The location of all treatment areas will be identified in the Annual Report.

3.7 Containers and Maintenance Wastes

Empty drums, barrels, and smaller containers are the major component of this waste type. Oily and greasy rags and other sorbent material are also included. All of these materials are solids that may contain residues of petroleum or other non RCRA listed chemical products (40 CFR Part 261, Subpart D). Containers and maintenance wastes which meet the RCRA definition of "empty" (40 CFR Part 261, Section 261.7) are placed in the solid waste dump. If the container is not "empty" and the residues are designated as hazardous, they are disposed of in accordance with federal regulations.

Barrels that are stored for disposal are placed in a designated storage area. Barrels are crushed before being covered with backfill.

All petroleum contaminated waste such as oil filters, oil-soaked rags, solvent rags, used sorbent material etc. will be contained in drums for disposal off-site and not placed in an on-site disposal area.

Containerized hazardous and non-hazardous materials destined for off-site disposal will be stored in a designated drum storage yard. The drum storage yard will be located near the facilities area and will be constructed so that water does not flow in or out of the storage area. A sump will be constructed in the yard to hold precipitation and drums will be placed on pallets out of wet areas. The drum storage area will be incised, bermed and constructed of compacted clay material with scoria armoring and lined with concrete to control water runoff. Specific areas in the yard will be designated for new product storage, non-hazardous waste and hazardous waste storage along with a place for empty drums. The drum storage area will be fenced, locked and

equipped with a fire extinguisher. Any hazardous waste materials will be properly identified, manifested, and disposed of offsite.

3.8 Sump Waste

Sump waste may accumulate at the bottom of the sump following washdown at the preparation plant and equipment washdown facility. The largest constituent of this waste is sediment (for example, scoria and soil) with smaller quantities of coal fines. Should the material become mixed with sufficient amounts of oil and grease, the material is tested for petroleum hydrocarbons (Montana modified Massachusetts Method for EPH and VPH) and treated by the same land farming methods discussed in Section 3.6 or is hauled off-site for proper disposal. Sump waste will be disposed of in the backfill only after sampling, treatment, and achievement of remediation goals as described in Section 3.6.

The sump waste bottoms will be analyzed on an annual basis for metals and trichloroethylene using the Toxic Characteristic Leaching Procedure (TCLP). If the waste bottoms exceed regulatory limits for any of the TCLP parameters the waste will be disposed of in accordance with federal regulations.

4.0 ARM.24.507 Storage and Final Disposal of Garbage and other Debris

(1) Garbage and other debris including, but not limited to, grease, lubricants, paints, flammable liquids, trash, abandoned machinery, lumber and other combustibles generated during mining activities will be placed and stored or disposed of in a controlled manner in a designated portion of the permit area. Refer to Map 9 – Mine Facilities for location of designated waste disposal area.

(a) Placement, storage, and disposal will ensure that leachate and surface runoff do not degrade surface or groundwater, that fires are prevented and that the area remains stable and suitable for reclamation and revegetation compatible with the natural surroundings.

(b) All disposal sites will be routinely compacted and suitable earth materials will be placed over garbage and other debris to a thickness in accordance with ARM 15.24.501(2).

(2) At no time will any garbage or other debris be deposited at impoundment sites, nor will any excavation for solid garbage or debris disposal be located within eight feet of any coal outcrop of coal storage area.

(3) Municipal garbage will not be deposited within the permit area.

(4) Any garbage or other debris meeting the definition of “hazardous” as found in section 3001 of Public Law 94-580, as amended, will be handled in accordance with Public Law 94-580 and regulations adopted thereunder.